



October 30, 2020

Mr. Mark Doolan
Project Coordinator
United States Environmental Protection Agency – Region VII (AWMD/WRAP)
11201 Renner Boulevard
Lenexa, KS 66219

Subject: Collis, Inc. (EPA ID No. IAD047303771)
Clinton, Iowa
Final 2020 Second-Half Semi-Annual LTM Summary Report

Dear Mr. Doolan,

On behalf of Collis, Inc., BB&E, Inc. is pleased to submit a hardcopy of the *Final 2020 Second-Half Semi-Annual Long-Term Monitoring Summary Report* for EPA review and approval.

If you have any questions concerning this document, or any other issues regarding this project, please call me at (248) 489-9636, Extension 308.

Sincerely,

Kacie Van Buskirk
Project Manager

Cc: Brian Calhoun, SSW Advanced Technologies, LLC.

RCRA 10/30/2020



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Collis, Inc. – Semi-Annual Long Term Monitoring (LTM)
2020 Second-Half Semi-Annual LTM Summary Report- FINAL

Report Date: October 30, 2020

D. Mark Doolan
U.S. Environmental Protection Agency
Air and Waste Management Division, WRAP Branch
11201 Renner Blvd.
Lenexa, KS 66219
913-551-7169

Site Name: Collis, Inc.
Clinton, Iowa
Corrective Measures Implementation - Long Term Monitoring
U.S. EPA ID #IAD047303771

Prepared by: Cindy Lang, BB&E, Inc.

BB&E, Inc. (BB&E) is pleased to provide this 2020 Second-Half Semi-Annual Long-Term Monitoring (LTM) Summary Report. This report documents the second semi-annual LTM sampling event of 2020 conducted on September 14, 2020 through September 15, 2020 at the Collis Facility (Site) located at 2005 South 19th Street in Clinton, Clinton County, Iowa (**Figure 1** and **Figure 2**). The Site includes an industrial manufacturing plant and covers an area of approximately 12.5 acres. A detailed summary of the operational history of the site, environmental setting (e.g., land use, topography, site geology and hydrogeology), historic environmental investigations completed, and the sources and extents of known contamination can be found in the USEPA approved *Final Corrective Measures Study Report* (CMS), dated April 24, 2018 (BB&E, 2018).

The CMS includes recommendations for soil land use controls (LUCs)/institutional controls (ICs). Because contamination remains in groundwater on-site and off-site at concentrations exceeding United States Environmental Protection Agency Maximum Contaminant Level (U.S. EPA MCL) criteria, resource-use restrictions via on-site and off-site Environmental Restrictive Covenants (ERC's) were developed. The ERCs restrict impacted properties from residential use and prohibit groundwater access and consumption. As noted in the *Revised Final Corrective Measures*



Implementation – Long Term Monitoring Work Plan (CMI-LTM WP; BB&E, 2019a), which was submitted to, and approved by the U.S. EPA, the CMS included recommendations for LTM of groundwater, in addition to the ERC's, including semi-annual groundwater monitoring for five years. Following the five years of semi-annual LTM, an evaluation will be conducted to determine the effectiveness of the monitored natural attenuation (MNA) groundwater remedy. Additionally, due to residual contamination in subsurface soils (2-10 feet below ground surface [bgs]) above U.S. EPA screening levels, a Media Management Plan (MMP) was developed to protect construction workers from exposure to subsurface contamination (BB&E, 2017). The MMP includes inspection and maintenance requirements for the gravel lot located north and northeast of the main facility building; specifically, the gravel lot will be maintained as an effective barrier to protect against direct contact with impacted subsurface soils as a result of erosion and normal use of the gravel surface cover. The gravel lot is to be inspected semi-annually to determine if it is functioning as intended and if maintenance is required. The MMP was submitted to, and approved by the US EPA, and included inspection and maintenance requirements for the gravel lot located north and northeast of the main facility building.

On February 25-27, 2019, thirty-one monitoring wells and piezometers were abandoned at and in the vicinity of the Collis facility. The monitoring wells and piezometers that were abandoned were no longer utilized, and, as agreed upon during the October 24, 2018 meeting at Region 7 between the USEPA and Collis, were to be properly abandoned to minimize long-term environmental liabilities. Abandonment activities are documented in the *Final Summary Report for 2019 Monitoring Well Abandonment Activities* (BB&E, 2019b).

Following the February 2019 monitoring well abandonment activities, the CMI-LTM WP was revised, and approved by the USEPA on May 8, 2019, to the Revised Final CMI-LTM WP in order to reflect the changes in monitoring wells present at and in the vicinity of the Collis site.

This report has been prepared in accordance with the Revised Final CMI-LTM WP (BB&E, 2019a) and the *Quality Assurance Project Plan* (QAPP; BB&E, 2014).

The objectives for field activities completed during execution of the 2020 second-half semi-annual LTM event consisted of the following:

- Groundwater elevations were taken from relevant monitoring wells and piezometers, as defined in the Revised Final CMI-LTM WP, in order to develop potentiometric surface maps to continue to monitor and evaluate the extent of the groundwater interface with Manufacturer's Ditch and groundwater flow direction.
- Groundwater samples were collected for analysis to monitor concentrations of contaminants of concern over time.
- Groundwater monitoring was conducted to observe natural attenuation parameters and concentrations of chlorinated volatile organic compounds (CVOCs). MNA parameters included methane/ethane/ethene, iron, manganese, chloride, sulfate, nitrate and nitrite; these MNA parameters were selected in order to demonstrate the status of the MNA remedy at the Site.
- A gravel lot inspection was conducted in accordance with the 2017 MMP (BB&E, 2017) to identify areas where the gravel was worn down, erosion was occurring (e.g., deep potholes), animals were burrowing, and/or ponding was occurring, and determine if any maintenance of the lot was required.

2020 SECOND-HALF SEMI-ANNUAL LTM MONITORING SUMMARY

This 2020 second-half semi-annual LTM summary report contains a summary of groundwater analytical results (**Table 1**), a summary of groundwater elevation results (**Table 2**), groundwater field parameter readings (**Table 3**), Vapor Intrusion Screening Level (VISL) comparisons (**Table 4**), MNA results (**Table 5**), detections summary figures (**Figures 3, 4, 5, and 6**), potentiometric surface maps (**Figures 7 and 8**), groundwater concentration trend graphs for key monitoring wells (**Graphs 1, 2, and 3**), laboratory analytical data (**Attachment A**), field notes/forms (**Attachment B**), and the gravel lot inspection (**Attachment C**).

The 2020 second-half semi-annual LTM activities are summarized below:

- Groundwater samples were collected from specific site monitoring wells, as described in the Revised Final CMI-LTM WP. Groundwater analytical results are summarized in **Table 1**, and sample locations are shown on **Figure 2**.

- Groundwater samples from the first saturated unit (a shallow unconfined aquifer) were collected from MW-38, MW-39, MW-50S, PZ-47 and PZ-48 and analyzed for volatile organic compounds (VOCs; U.S. EPA Method 8260).
- Groundwater samples from the second saturated unit (upper unconsolidated sediments and weathered bedrock) were collected from MW-34, MW-45, MW-47S, MW-50, and MW-56 and analyzed for VOCs (U.S. EPA Method 8260). Additionally, MW-34 was sampled and analyzed for MNA parameters (chloride, nitrate/nitrite, sulfate/sulfide, dissolved iron, dissolved manganese, methane, ethane, and ethene). Monitoring wells MW-34 and MW-45 were also sampled and analyzed for 1,4-dioxane (U.S. EPA Method 8260SIM).
- Groundwater samples from the third saturated unit (lower unconsolidated sediments and upper bedrock) were collected from MW-42 and MW-53 and analyzed for VOCs (U.S. EPA Method 8260), 1,4-dioxane (U.S. EPA Method 8260SIM), and MNA parameters (chloride, nitrate/nitrite, sulfate/sulfide, dissolved iron, dissolved manganese, methane, ethane, and ethene).
- A groundwater sample from the fourth saturated unit (bedrock) was collected from MW-43 and analyzed for VOCs (U.S. EPA Method 8260).
- Groundwater field parameters, including oxidation-reduction potential (ORP), dissolved oxygen (DO), specific conductivity, turbidity, and pH, were collected from monitoring wells during purging, and prior to sample collection, at approximately 5-minute intervals. Groundwater field parameters were collected to determine when stabilization had been achieved and a groundwater sample could be collected. A groundwater sample was collected when field parameters had stabilized for three successive readings or when 45 minutes of purging had been completed. Prior to sample collection, a final reading of the field parameters was recorded. The following stabilization criteria were used:
 - ± 0.1 Standard Unit (S.U.) for pH
 - ± 3 percent (%) for specific conductance (millisiemens/centimeter [mS/cm])
 - ± 10 millivolts (mV) for ORP
 - ± 0.3 milligrams per liter (mg/L) for DO
 - ± 0.5 Degrees Celsius ($^{\circ}$ C)
 - $\pm 10\%$ for turbidity values or less than (<) 50 Nephelometric Turbidity Units (NTUs)

Groundwater field parameters were used to enhance the dataset for evaluating the effectiveness of the MNA groundwater remedy in accordance with the *Natural Attenuation of Chlorinated Solvents in Groundwater: Principles and Practices* (Interstate Technology and Regulatory Council, 1999) guidance document.

- In accordance with the Revised Final CMI-LTM WP all purge water generated was disposed of directly at the waste water treatment plant inside the Collis Facility. All sampling gloves and other personal protective equipment were double-bagged and placed in an on-site municipal waste container for disposal.

DEVIATIONS FROM THE REVISED FINAL CMI-LTM WP

There were no deviations from the Revised Final CMI-LTM WP experienced during the 2020 second-half semi-annual LTM event conducted September 14, 2020 and September 15, 2020.

GROUNDWATER ELEVATION SUMMARY

Monitoring wells/piezometers that are screened in four different saturated units, as described in the Revised Final CMI-LTM WP, were gauged during the 2020 second-half semi-annual LTM event. Potentiometric surface maps for the first and second saturated units are included in this report as **Figures 7 and 8**. Potentiometric surface maps were not prepared for the third or fourth saturated units as only two and one data points, respectively, are available for these saturated units. A summary of groundwater elevation and flow information is summarized below:

- Historically, groundwater in the first saturated unit, a shallow unconfined aquifer, flows northwest to north-northwest. Groundwater in the first saturated unit appears to vent to Manufacturer's Ditch. As shown on **Figure 7**, the groundwater flow direction in the first saturated unit, was consistent with historic observations.
- Historically, groundwater in the second saturated unit, the upper unconsolidated sediments and weathered bedrock, flows northwest. As shown on **Figure 8**, the groundwater flow direction in the second saturated unit was consistent with historic observations.
- Historically, based on previous potentiometric surface maps, groundwater in the third saturated unit, the lower unconsolidated sediments and weathered bedrock, flows northwest.

- Upon removal of expansion plugs, various monitoring wells were noted to have water slowly flowing to the top and/or over the top of casing indicating artesian conditions consistent with historic observations. Wells exhibiting artesian conditions during the 2020 second -half semi-annual LTM event are identified on **Table 2**.

A summary of groundwater elevations is included as **Table 2** and field notes and forms are provided for reference in **Attachment B**.

GROUNDWATER ANALYTICAL RESULTS

As specified in the Revised Final CMI-LTM WP, groundwater analytical results were compared to U.S. EPA MCLs or the most recent Regional Screening Level (RSLs), if no MCL exists, for the purposes of evaluating the effectiveness of the MNA groundwater remedy. In addition to the MCL or RSL comparison, per the Revised Final CMI-LTM WP, shallow groundwater analytical results for VOCs were also compared to target groundwater concentrations for VISLs. VOC results from the first and second saturated units have been compared to VISL target groundwater concentrations for commercial exposure, calculated using the U.S. EPA VISL Calculator last updated May 2018 (U.S. EPA, 2018). A summary of groundwater analytical results is provided in **Table 1**. Groundwater analytical results compared to VISL target groundwater concentrations for the first and second saturated units are shown on **Table 4**.

All samples were analyzed by ALS Laboratory Group located in Holland, Michigan (a National Environmental Laboratory Accreditation Program [NELAP] approved lab). A complete set of laboratory results is provided in **Attachment A**. Field notes and sample log forms are provided for reference in **Attachment B**.

Laboratory analytical results are summarized below.

VOCs

First Saturated Unit: Monitoring wells MW-38, MW-39, MW-50S, PZ-47, and PZ-48 were sampled and analyzed for VOCs. VOCs detected above screening criteria included cis-1,2-Dichloroethene (DCE) and vinyl chloride (VC).

Cis-1,2-DCE was detected above the MCL in MW-38 and MW-39. VC was detected above the MCL and VISL target groundwater concentration in MW-38, MW-39, and MW-50S.

Additional detections of VOCs in the second saturated unit include low-level detections of acetone and benzyl chloride (MW-38), below applicable USEPA MCLs or USEPA Tapwater RSLs.

Analytical results for the first saturated unit are included on **Table 1**, **Table 4**, and **Figure 3**.

Second Saturated Unit: Monitoring wells MW-34, MW-45, MW-47S, MW-50, and MW-56 were sampled and analyzed for VOCs. VOCs detected above screening criteria included cis-1,2-DCE, trichloroethylene (TCE), and VC.

Cis-1,2-DCE was detected above the MCL in MW-34. VC was detected above both the MCL and VISL target groundwater concentration in MW-50, and just above the MCL in MW-34. TCE was detected above both the MCL and VISL target groundwater concentration in MW-34, and above the VISL target groundwater concentration in MW-45.

Additional detections of VOCs in the second saturated unit include a low-level detection of toluene (MW-45), below applicable USEPA MCLs or USEPA Tapwater RSLs.

Analytical results for the second saturated unit are included on **Table 1**, **Table 4**, and **Figure 4**. A groundwater concentration trend graph for MW-34 is included on **Graph 1**.

Third Saturated Unit: Monitoring wells MW-42 and MW-53 were sampled and analyzed for VOCs. VOCs detected above screening criteria included cis-1,2-DCE, TCE, and VC. All three parameters were detected above the MCL in MW-42. No parameters exceeded screening criteria in MW-53.

Per the Revised Final CMI-LTM WP, results from the third saturated unit were not compared to VISL target groundwater concentrations. Analytical results for the third saturated unit are included on **Table 1** and **Figure 5**. Groundwater concentration trend graphs for MW-42 and MW-53 are included on **Graph 2** and **Graph 3**, respectively.

Fourth Saturated Unit: Monitoring well MW-43 was sampled and analyzed for VOCs. There were no VOC detections exceeding the MCL.

Per the Revised Final CMI-LTM WP, results from the fourth saturated unit were not compared to VISL target groundwater concentrations. Analytical results for the fourth saturated unit are included on **Table 1** and **Figure 6**.

1,4-Dioxane

Select wells in the second and third saturated units were sampled for 1,4-dioxane. MW-34 and MW-45 (second saturated unit) and MW-42 and MW-53 (third saturated unit) were sampled for 1,4-dioxane; however, 1,4-dioxane was not detected in any of the groundwater samples during the 2020 second half semi-annual LTM event. Analytical results are summarized in **Table 1**.

Vapor Intrusion

Groundwater samples collected from the first and second saturated unit were compared to VISL Target Groundwater Concentrations (**Table 4**). Sample results indicated that the first saturated unit had detections of VC that exceeded the VISL Target Groundwater Concentration and the second saturated unit had detections of TCE and VC that exceeded the VISL Target Groundwater Concentration; however, historic evaluation indicates that vapor intrusion is not a concern at the Site.

MONITORED NATURAL ATTENUATION (MNA) SUMMARY

MNA analyses was conducted during the 2020 second-half semi-annual LTM event in order to evaluate continued in-situ biodegradation via reductive dechlorination processes.

In accordance with the Revised Final CMI-LTM WP, MW-34, MW-42, and MW-53 were sampled for VOCs, MNA parameters (i.e., nitrate/nitrite, sulfate/sulfide, iron, manganese, methane, ethene, and ethane), and field parameters (dissolved oxygen [DO], oxidation reduction potential [ORP]), and pH). A detailed discussion of these parameters and relative favorability for in-situ biodegradation via reductive dechlorination is discussed below. A summary of environmental conditions supportive of reductive dechlorination for the three wells sampled during the 2020 second-half semi-annual LTM event has been included in **Table 5**.

Groundwater Field Parameters

DO is a measure of oxygen dissolved in a solution. Concentrations less than 0.5 mg/L are indicative of an environment potentially supportive of reductive dechlorination. All three wells (MW-34,

MW-42, and MW-53) had concentrations less than 0.5 mg/L (0.02, 0.07, and 0.06 mg/L, respectively), indicating favorable conditions for reductive dechlorination.

ORP is a measure of the electron activity and an indicator of the relative tendency of a solution to accept or transfer electrons. Favorable conditions for natural reductive dechlorination are less than 50 mV with less than -100 mV being optimal. All three wells (MW-34, MW-42 and MW-53) had concentrations less than 50 mV (-87.6 mV, -65.2 mV and -70.2 mV, respectively), indicating favorable conditions.

The optimal pH range for microbial activity is between 5 and 9. Biological activity is not likely to occur if the pH is below 5 or above 9. All three wells (MW-34, MW-42, and MW-53) exhibited favorable conditions with pH levels of 6.75, 6.75, and 7.02 units, respectively.

Sulfate Anions

Sulfate concentrations are monitored to evaluate the presence of alternate electron acceptors for microbial respiration. Sulfate was detected in all three wells including MW-34 (53,000 µg/L), MW-42 (98,000 µg/L), and MW-53 (31,000 µg/L) at concentrations higher than the optimal level (<20,000 micrograms per liter [µg/L]) for microbial activity. High sulfate levels may compete with the reductive dechlorination pathway.

Iron

Dissolved iron (i.e., ferrous iron) was detected in MW-42 (77 µg/L) and MW-53 (7.6 µg/L), but concentrations did not indicate ideal conditions. Favorable concentrations of dissolved iron for in-situ reductive dechlorination are typically greater than (>) 1,000 µg/L. Iron was not detected in MW-34.

Nitrate/Nitrite

Nitrogen, measured as nitrate and nitrite, was not detected in MW-34, MW-42 or MW-53. These results are favorable, as favorable conditions are generally less than 1,000 µg/L.

Degradation-Daughter Products

Cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and VC are degradation products of TCE. The presence of these degradation daughter products are positive indications that reductive dechlorination is

occurring. VC is the intermediate degradation step prior to the generation of ethene, followed by ethane. All four daughter products (with the exception of 1,1-DCE in MW-53) were observed in all three wells (MW-34, MW-42, and MW-53).

As specified in the Revised Final CMI-LTM WP, groundwater concentration trend graphs were created for key monitoring wells (MW-34, MW-42, and MW-53) in order to evaluate the historical concentration trends of TCE and the degradation-daughter products over time. These concentration trend graphs are included as **Graph 1**, **Graph 2**, and **Graph 3**.

Dissolved Gases

The presence of the degradation products ethene and ethane tend to indicate that the complete destruction of TCE via the reductive pathway is occurring. Ethene was detected in MW-42 (3.2 ug/L) and Ethane was only detected in MW-34 (8.7 ug/L) and MW-42 (8.5 ug/L). Elevated methane levels (>500 ug/L) are generally indicative of strong reducing conditions supportive of reductive dechlorination. Methane was detected in all three monitoring wells (MW-34, MW-42, and MW-53) at concentrations of 130 ug/L, 220 ug/L, and 9.1 ug/L, respectively; however, concentrations were not suggestive of strong reducing conditions (>500 ug/L).

2020 SECOND-HALF SEMI-ANNUAL LTM EVENT CONCLUSIONS

VOCs

Based on the groundwater monitoring results from the 2020 second-half semi-annual LTM event, VOCs continue to exceed MCLs in certain wells as shown on **Table 1**. Specifically, cis-1,2-DCE, TCE and VC continue to be detected in groundwater above MCLs at the Site. **Figures 3, 4, 5, and 6** show VOCs detected above MCLs for the 2020 second half semi-annual LTM event.

In the first saturated unit, cis-1,2-DCE was detected above the MCL in two monitoring wells (MW-38 and MW-39) and VC was detected above the MCL in three monitoring wells (MW-38, MW-39, and MW-50S). In the second saturated unit, cis-1,2- DCE was detected above the MCL in MW-34, TCE was detected above the MCL in MW-34, and VC was detected above the MCL in two monitoring wells (MW-34 and MW-50). In the third saturated unit, cis-1,2-DCE, TCE, and VC were detected above the respective MCLs in MW-42. In the fourth saturated unit, there were

no VOC detections exceeding MCLs. The constituent 1,4-dioxane was not detected in any of the samples.

Monitored Natural Attenuation

Analytical results and groundwater field parameters from the 2020 second-half semi-annual LTM event were indicative of reductive dechlorination of TCE as evidenced by detections of TCE daughter products including trans-1,2-DCE, cis-1,2-DCE, 1,1-DCE, VC, ethene, ethane, and methane. Measured field parameters (ORP, pH, and DO) were also indicative of reducing conditions conducive to dechlorination.

GRAVEL LOT INSPECTION

As required by the MMP, the gravel lot was thoroughly graded in October 2017 and, at the request of EPA, a survey of the gravel lot was conducted on May 15, 2018 in order to establish a benchmark condition for which semi-annual inspections will be compared to. A figure showing the gravel lot area to be inspected is included in **Attachment C**.

In accordance with the MMP (BB&E, 2017), the 2020 second half semi-annual gravel lot inspection was conducted on September 15, 2020 to evaluate if it is functioning as intended (i.e., to protect against direct contact with impacted subsurface soils) and determine if any maintenance of the lot was required. The gravel lot was inspected for areas where the gravel had been worn down, and evidence of erosion, burrowing animals, poor drainage or ponding, and any deep potholes (areas with no gravel cover). There were no necessary repairs or areas identified where replacement of the gravel was necessary during the September 2020 inspection. In accordance with the MMP (BB&E, 2017), if repairs or replacement of the gravel cover are determined to be necessary during any future semi-annual inspections, repairs will be completed within 60 calendar days to continue to protect against exposure to underlying residual contaminants in the subsurface soils.

The inspection form and photographs taken during the inspection to document the overall condition of the gravel cover throughout the lot are included in **Attachment C**.

FINANCIAL ASSURANCE MECHANISM (FAM)

Based on LTM sampling results to date, site conditions remain unchanged, which does not warrant any updates to the FAM; therefore, the FAM remains unchanged since its preparation in 2018. The

FAM will be re-evaluated for potential updates following the 2021 first-half semi-annual sampling event.

RECOMMENDATIONS

Groundwater monitoring and gravel cap inspections are recommended to be continued on a semi-annual basis in accordance with the Revised Final CMI-LTM WP for a period of five years. The semi-annual LTM sampling and analysis will be conducted in accordance with the U.S. EPA approved QAPP (BB&E, 2014). Gravel cap inspections will be conducted in accordance with the MMP (BB&E, 2017). As noted above, following the five years of semi-annual sampling (estimated to be complete in the second-half of 2022), an evaluation will be conducted to determine the effectiveness of the MNA groundwater remedy. The evaluation results, with recommendations, will be submitted to U.S. EPA for review. The next semi-annual LTM event is currently scheduled for April 2021.

If you have any questions or comments regarding this report, please contact me at 248-489-9636 ext. 308 or kvanbuskirk@bbande.com.

Sincerely,

Kacie Van Buskirk

Kacie Van Buskirk
Project Manager
BB&E, Inc.

cc: Mr. Brian Calhoun – Collis/SSW
Mr. Charlie Denton – Barnes & Thornburg, LLP

Enclosures:

Figure 1 – Site Location Map

Figure 2 – Site Features Map

Figure 3 – Detections Summary First Saturated Unit September 2020

Figure 4 – Detections Summary Second Saturated Unit September 2020

Figure 5 – Detections Summary Third Saturated Unit September 2020

Figure 6 – Detections Summary Fourth Saturated Unit September 2020

Figure 7 – Potentiometric Surface Map First Saturated Unit September 2020

Figure 8 – Potentiometric Surface Map Second Saturated Unit September 2020

Table 1 – Groundwater Data Summary

Table 2 – Water Elevations Summary

Table 3 – Groundwater Field Parameter Readings

Table 4 – Vapor Intrusion Screening

Table 5 – LTM Groundwater MNA Results

Graph 1 – MW-34 Concentration Trends

Graph 2 – MW-42 Concentration Trends

Graph 3 – MW-53 Concentration Trends

Attachment A – Laboratory Analytical Data

Attachment B – Field Notes

Attachment C – Gravel Lot Inspection

Attachment D – Semi-Annual Certification for Compliance with LUCs/ICs

FIGURES

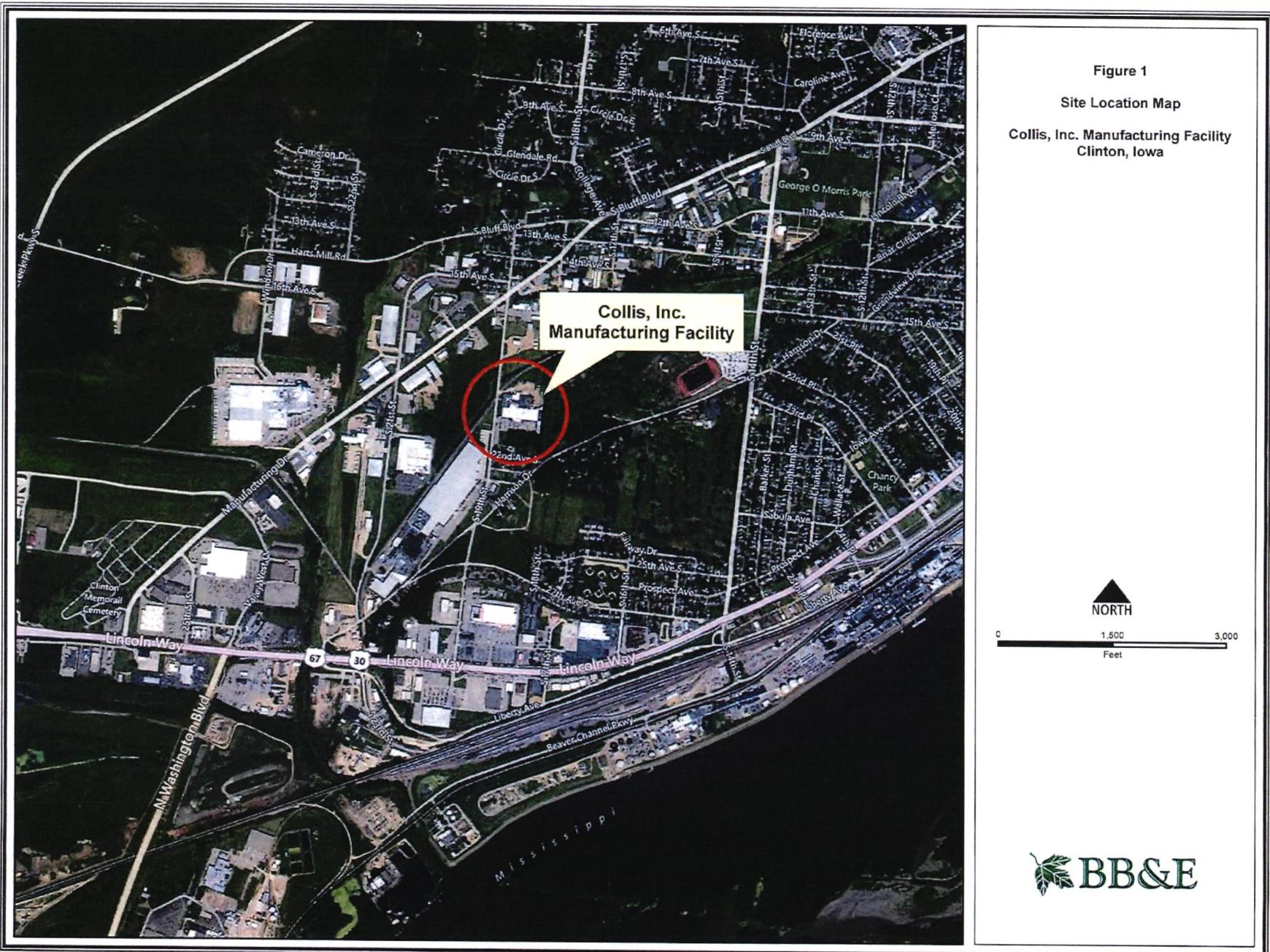


Figure 1

Site Location Map

Collis, Inc. Manufacturing Facility
Clinton, Iowa





Figure 2

LTM Monitoring Well Locations

**Collis, Inc. Manufacturing Facility
Clinton, Iowa**

Legend:

- Manufacturer's Ditch
- Property Boundary (Approximate)
- Monitoring Wells**
 - First Saturated Unit
 - Second Saturated Unit
 - Third Saturated Unit
 - Fourth Saturated Unit
 - LTM Monitoring Well

Note:
LTM = long term monitoring

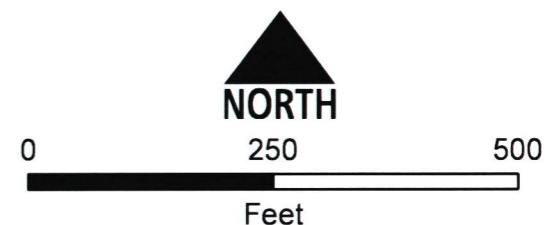
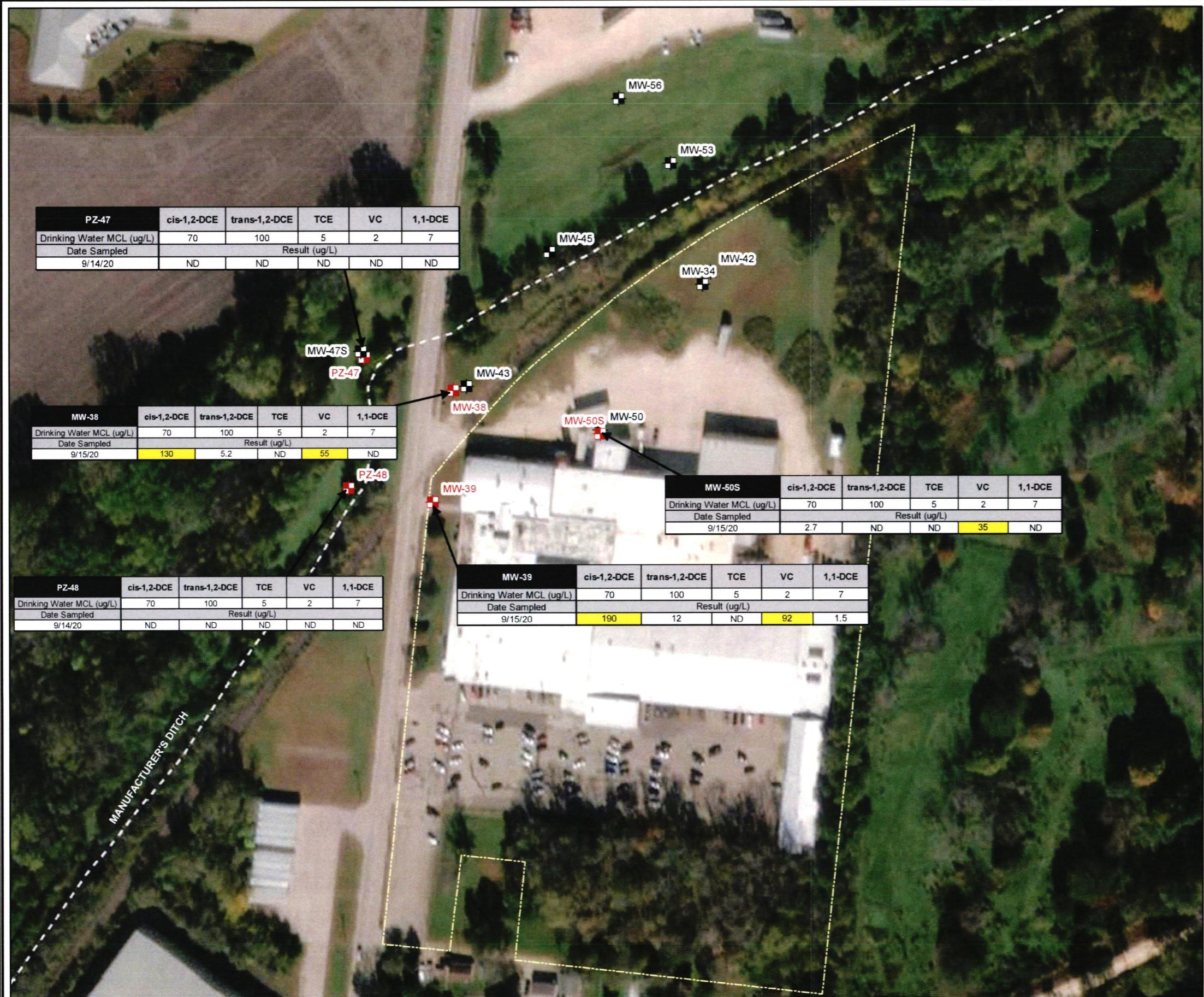


Figure 3

**Detections Summary
First Saturated Unit
September 2020**

**Collis, Inc. Manufacturing Facility
Clinton, Iowa**

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Legend:

- Wells Sampled Unit 1
- Wells Not Sampled Unit 1
- Manufacturer's Ditch
- Property Boundary (Approximate)

NOTES:

1. Only results from monitoring wells/piezometers sampled during the Corrective Measures Implementation (CMI) Long Term Monitoring (LTM) are included on this figure.
2. Yellow highlighting indicates exceedance of United States Environmental Protection Agency (USEPA) Maximum Contaminant Level (MCL).

ND = not detected
 µg/L = micrograms per liter
 cis-1,2-DCE = cis-1,2-dichloroethene
 trans-1,2-DCE = trans-1,2-dichloroethylene
 TCE = trichloroethylene
 VC = vinyl chloride
 1,1-DCE = 1,1-dichloroethene

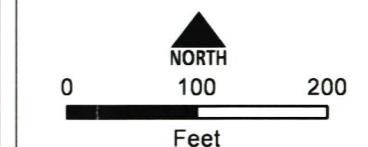
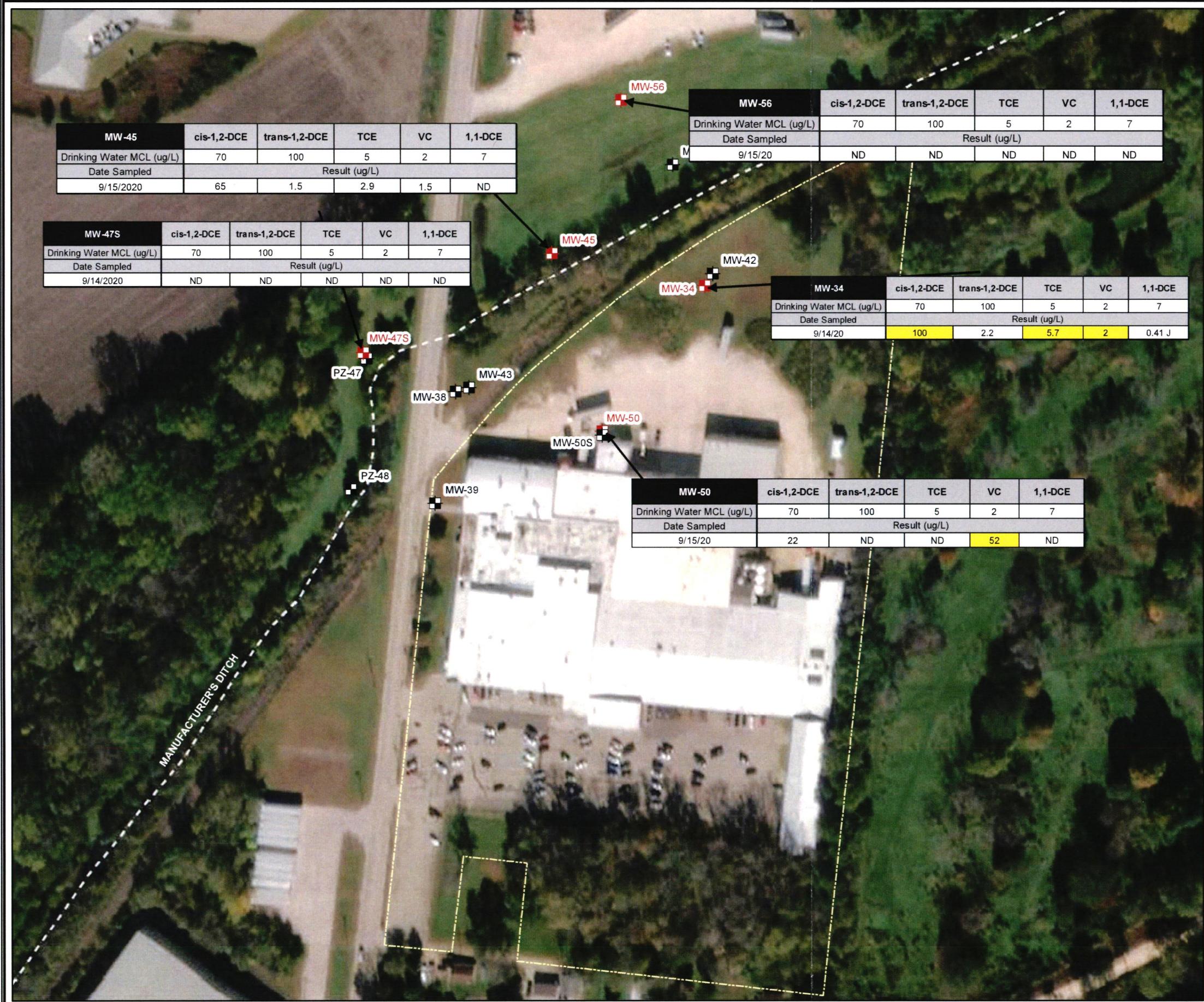


Figure 4

**Detections Summary
Second Saturated Unit
September 2020**

**Collis, Inc. Manufacturing Facility
Clinton, Iowa**

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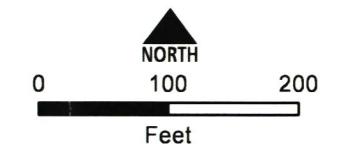
Legend:

- Location Sampled
- Location Not Sampled
- Manufacturer's Ditch
- Property Boundary (Approximate)

NOTES:

- Only results from monitoring wells sampled during the Corrective Measures Implementation (CMI) Long Term Monitoring (LTM) are included on this figure.
- Yellow highlighting indicates exceedance of United States Environmental Protection Agency (USEPA) Maximum Contaminant Level (MCL).

ND = not detected
 µg/L = micrograms per liter
 cis-1,2-DCE = cis-1,2-dichloroethene
 trans-1,2-DCE = trans-1,2-dichloroethene
 TCE = trichloroethylene
 VC = vinyl chloride
 1,1-DCE = 1,1-dichloroethene



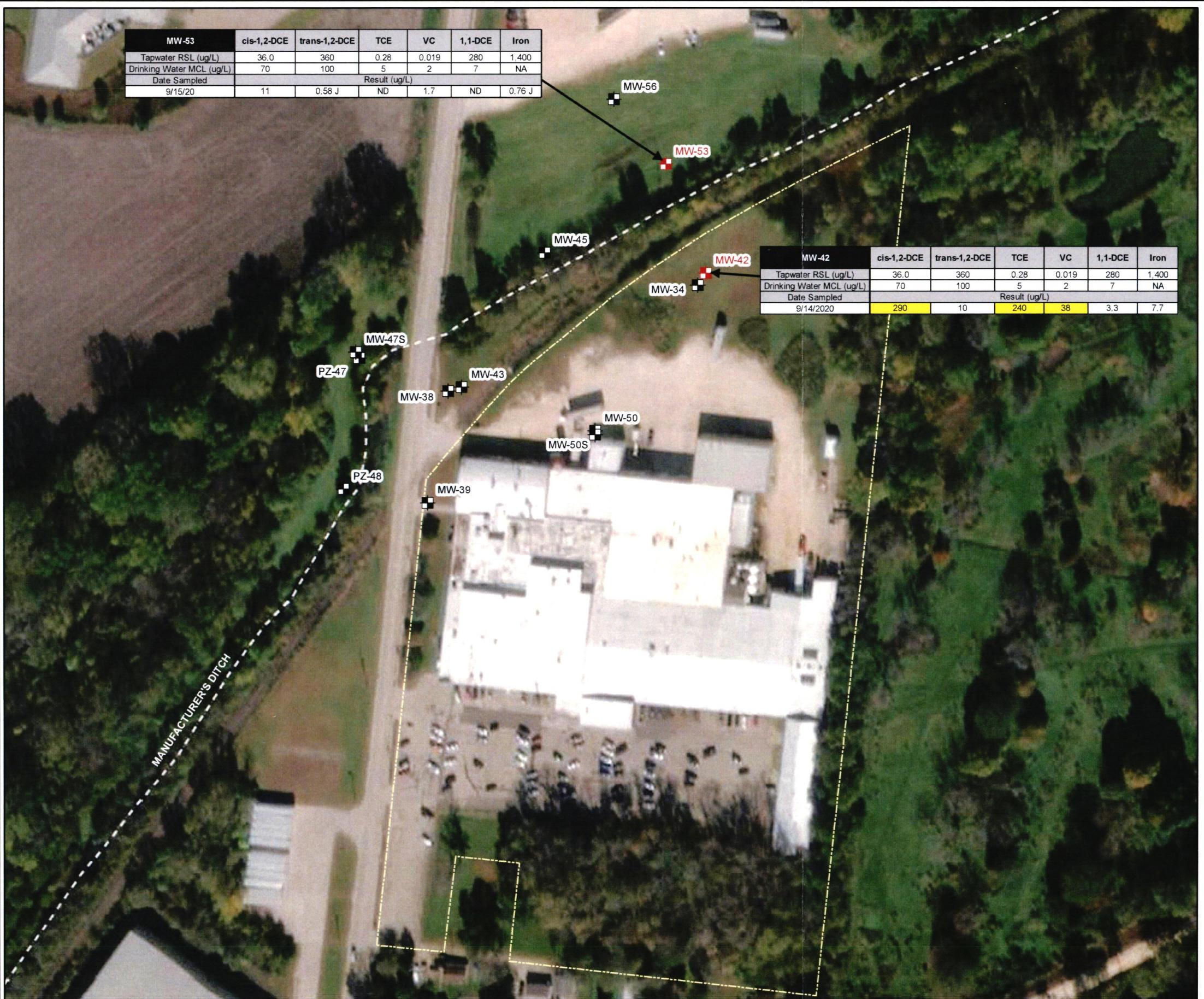


Figure 5

**Detections Summary
Third Saturated Unit
May 2020**

**Collis, Inc. Manufacturing Facility
Clinton, Iowa**

Legend:	
■	Location Sampled
■	Location Not Sampled
- - -	Manufacturer's Ditch
■■■■■	Property Boundary (Approximate)

NOTES:

1. Only results from monitoring wells sampled during the Corrective Measures Implementation (CMI) Long Term Monitoring (LTM) are included on this figure.
2. Yellow highlighting indicates exceedance of the May 2020 United States Environmental Protection Agency (USEPA) Maximum Contaminant Level (MCL) or USEPA Tapwater Regional Screening Level (RSL) Criteria, if no MCL is available.

J = the reported value is an estimate

NA = not available

ND = not detected

ug/L = micrograms per liter

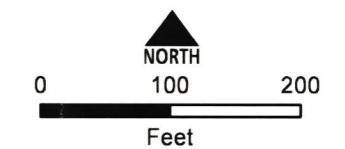
cis-1,2-DCE = cis-1,2-dichloroethene

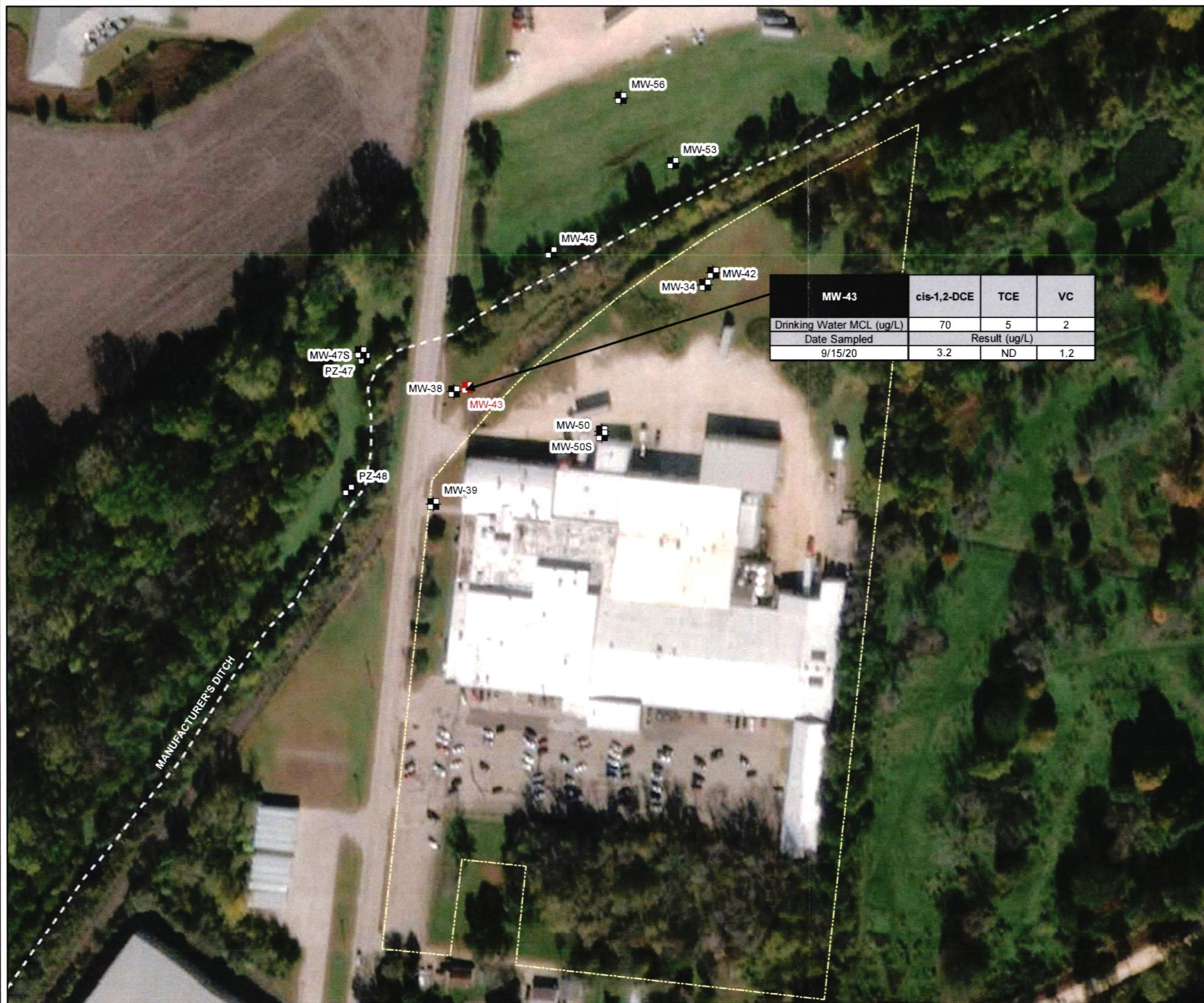
trans-1,2-DCE = trans-1,2-dichloroethylene

TCE = trichloroethylene

VC = vinyl chloride

1,1-DCE = 1,1-dichloroethylene



**Figure 6**
**Detections Summary
Fourth Saturated Unit
September 2020**
**Collis, Inc. Manufacturing Facility
Clinton, Iowa**

Legend:

- Location Sampled
- Location Not Sampled
- Manufacturer's Ditch
- Property Boundary (Approximate)

NOTES:

1. Only results from monitoring wells sampled during the Corrective Measures Implementation (CMI) Long Term Monitoring (LTM) are included on this figure.
2. Yellow highlighting indicates exceedance of the May 2020 United States Environmental Protection Agency (USEPA) Maximum Contaminant Level (MCL).

ND = not detected
 µg/L = micrograms per liter
 cis-1,2-DCE = cis-1,2-dichloroethene
 TCE = trichloroethene
 VC = vinyl chloride

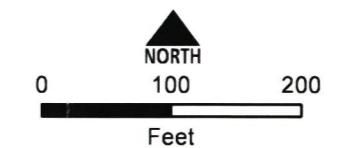
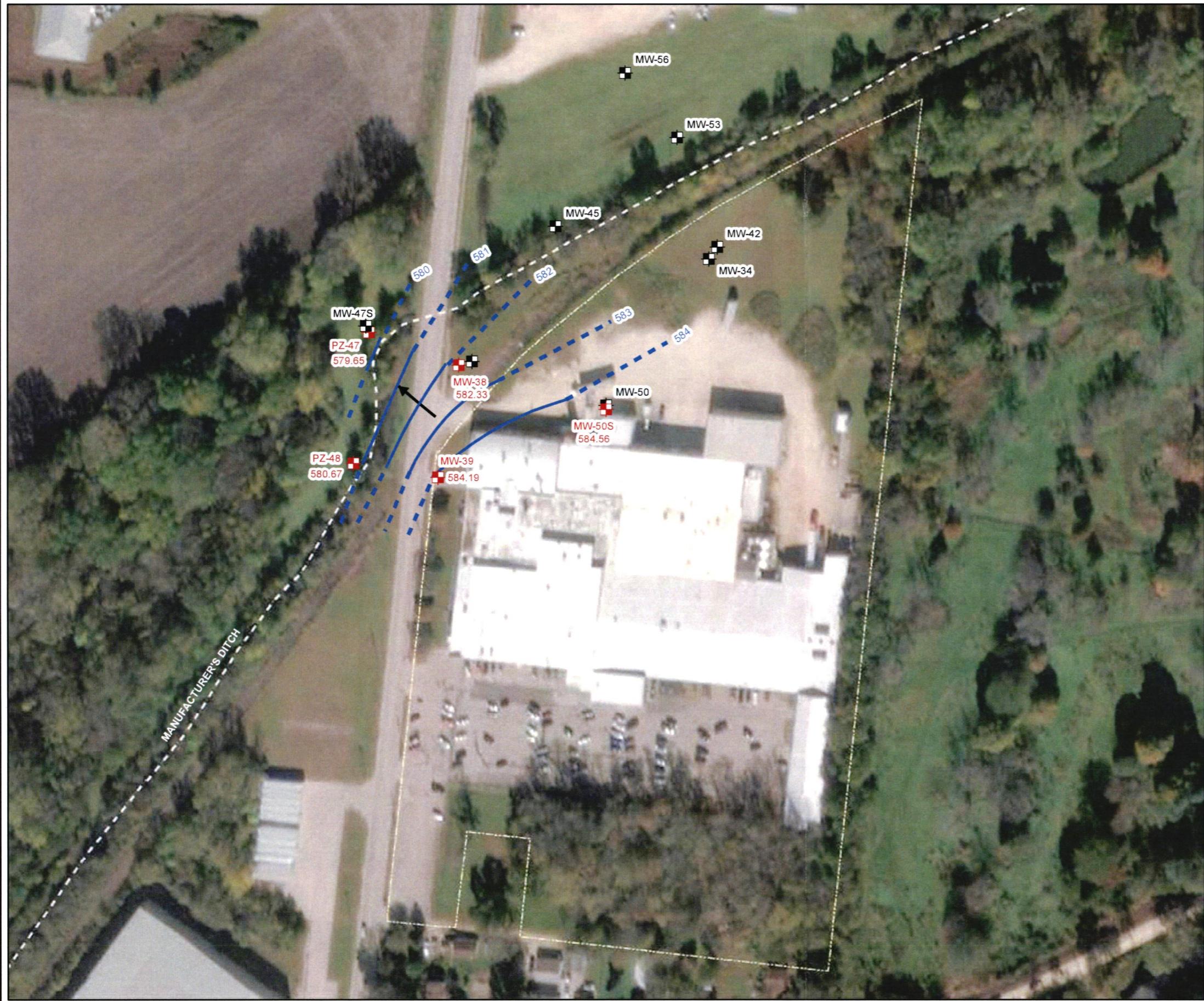


Figure 7

**Potentiometric Surface Map
First Saturated Unit
September 2020**

**Collis, Inc. Manufacturing Facility
Clinton, Iowa**

Document Path: H:\NGIS\SSW\Collis\figures\02028033 - 2020 LTM Monitoring\2020 Second semi-annual\Figure 7 - SSW_Collis_GWCContours_1stsatunit_September20.mxd



Legend:

- Monitoring Well/Piezometer Location (Elevations included)
- Monitoring Well/Piezometer Location (Elevations excluded)
- Water Table Elevation (dashed where inferred)
- Groundwater Flow Direction
- - - Manufacturer's Ditch
- Property Boundary (Approximate)

NOTES:

1. Monitoring wells shaded in black were excluded from use in generating this potentiometric surface map due to belonging to a different hydrological unit.
2. Monitoring wells MW-42 and MW-53 are located in the third saturated unit and MW-43 belongs to the deep bedrock hydrological unit. A separate figure was not created for these hydrological units as data from two wells is inadequate for accurate creation of groundwater contours.
3. Due to limitations of software interpolation, this drawing is intended to be used as an overview of the general groundwater flow conditions at the site. Groundwater contours may not pass through the included monitoring wells due to the display of groundwater contours at a constant interval. Contour placement represents an interpolation between two or more monitoring wells with known water levels, observed at the time of sampling; therefore, contours are inferred.
4. Groundwater contours developed using ArcGIS Desktop 10.6 Spatial Analyst Extension.

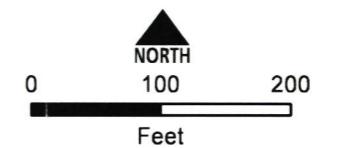




Figure 8

**Potentiometric Surface Map
Second Saturated Unit
September 2020**

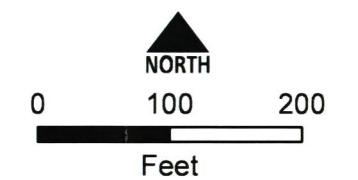
**Collis, Inc. Manufacturing Facility
Clinton, Iowa**

Legend:

- Monitoring Well/Piezometer Location (Elevations included)
- Monitoring Well/Piezometer Location (Elevations excluded)
- Potentiometric Surface (dashed where inferred)
- Groundwater Flow Direction
- - - Manufacturer's Ditch
- Property Boundary (Approximate)

NOTES:

1. Monitoring wells shaded in black were excluded from use in generating this potentiometric surface map either due to belonging to a different hydrological unit, or due to artesian flow conditions. Wells with artesian flow conditions in the second saturated unit are identified as MW-45.
2. Monitoring wells MW-42 and MW-53 are located in the third saturated unit and MW-43 belongs to the deep bedrock hydrological unit. A separate figure was not created for these hydrological units as data from two wells is inadequate for accurate creation of groundwater contours.
3. Due to limitations of software interpolation, this drawing is intended to be used as an overview of the general groundwater flow conditions at the site. Groundwater contours may not pass through the included monitoring wells due to the display of groundwater contours at a constant interval. Contour placement represents an interpolation between two or more monitoring wells with known water levels, observed at the time of sampling; therefore, contours are inferred.
4. Groundwater contours developed using ArcGIS Desktop 10.6 Spatial Analyst Extension.



TABLES

TABLE 1
GROUNDWATER DATA SUMMARY
SSW COLLIS
CLINTON, IA

First Saturated Groundwater Unit										
MONITORING WELL	PARAMETERS (mg/L)	cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	1,1-DCE	Lead	1,4-Dioxane	Methane	Ethane
	CAS #	156-59-2	156-60-5	79-01-6	75-01-4	75-35-4	7439-92-1	123-91-1	74-82-8	74-84-0
	EPA MAY 2020 RSL TAPWATER SCREENING CRITERIA (mg/L)	0.0360	0.360	0.00028	0.000019	0.280	0.015	0.00046	NA	NA
	EPA DRINKING WATER MCL (mg/L)	0.07	0.100	0.005	0.002	0.007	0.015	NA	NA	NA
MW-38	10/15/14	0.110	0.0070	ND	0.093	ND	NS	NS	NS	NS
	3/19/15	0.10	0.0052	ND	0.074	ND	NS	NS	NS	NS
	5/13/15	0.110	0.0053	ND	0.088	ND	NS	NS	NS	NS
	9/18/15	0.100	0.0055	ND	0.069	ND	NS	NS	NS	NS
	9/29/16	0.099	0.0054	ND	0.084	ND	NS	NS	NS	NS
	12/15/16	0.088	0.0032	ND	0.028	ND	NS	NS	NS	NS
	2/28/17	0.087	0.0032	ND	0.084	ND	NS	NS	NS	NS
	5/4/17	0.12	0.0077	ND	0.081	ND	NS	NS	NS	NS
	6/19/18	0.12	0.0052	ND	0.082	ND	NS	NS	NS	NS
	10/1/18	0.13	0.0056	ND	0.097	ND	NS	NS	NS	NS
	4/8/19	0.10	0.0032	ND	0.055	ND	NS	NS	NS	NS
	9/9/19	0.13	0.0036	ND	0.083	ND	NS	NS	NS	NS
	4/21/20	0.12	0.0031	ND	0.049	ND	NS	NS	NS	NS
	9/15/20	0.13	0.0052	ND	0.055	ND	NS	NS	NS	NS
MW-39	10/14/14	0.38	0.024	ND	0.16	0.0026	NS	NS	NS	NS
	3/19/15	0.3	0.017	ND	0.096	0.0018	NS	NS	NS	NS
	5/13/15	0.33	0.016	ND	0.11	0.0018	NS	NS	NS	NS
	9/18/15	0.25	0.016	ND	0.086	0.0019	NS	NS	NS	NS
	9/29/16	0.19	0.015	ND	0.082	0.0016	NS	NS	NS	NS
	12/15/16 ¹	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/2/17	0.26	0.011	ND	0.065	0.0012	NS	NS	NS	NS
	5/4/17	0.27	0.016	ND	0.093	0.0019	NS	NS	NS	NS
	6/19/18	0.29	0.016	ND	0.085	0.0019	NS	NS	NS	NS
	6/19/18 DUP	0.26	0.016	ND	0.074	0.0021	NS	NS	NS	NS
	10/2/18	0.21	0.011	ND	0.058	0.0012	NS	NS	NS	NS
	4/9/19	0.21	0.0088	ND	0.075	0.001	NS	NS	NS	NS
	9/10/2019 DUP	0.23	0.0110	ND	0.11	0.0015	NS	NS	NS	NS
	4/21/20	0.24	0.0110	0.002	0.1	0.0016	NS	NS	NS	NS
MW-50S	9/15/2020 DUP	0.26	0.0110	ND	0.095	0.0013	NS	NS	NS	NS
	9/15/20	0.19	0.0120	ND	0.062	0.0015	NS	NS	NS	NS
	9/15/2020 DUP	0.19	0.0100	ND	0.092	0.0013	NS	NS	NS	NS
	10/13/14	ND	ND	ND	0.0068	ND	NS	NS	NS	NS
	3/18/15	0.0056	ND	ND	0.046	ND	NS	NS	NS	NS
	5/13/15	0.0079	ND	ND	0.072	ND	NS	NS	NS	NS
	9/17/15	0.0086	ND	ND	0.075	ND	NS	NS	NS	NS
	9/29/16	0.0068	ND	ND	0.042	ND	NS	NS	NS	NS
	12/15/16	0.0098	ND	ND	0.043	ND	NS	NS	NS	NS
	3/1/17	0.0084	ND	ND	0.025	ND	NS	NS	NS	NS
	3/1/17 DUP	0.0088	ND	ND	0.027	ND	NS	NS	NS	NS
	5/4/17	0.015	ND	ND	0.052	ND	NS	NS	NS	NS
	6/20/18	0.0081	ND	ND	0.045	ND	NS	NS	NS	NS
	10/2/18	0.0058	ND	ND	0.030	ND	NS	NS	NS	NS
	4/9/19	0.0077	ND	ND	0.037	ND	NS	NS	NS	NS
PZ-47	9/9/19	0.0061	ND	ND	0.043	ND	NS	NS	NS	NS
	4/21/20	0.0043	ND	ND	0.033	ND	NS	NS	NS	NS
	9/15/20	0.0027	ND	ND	0.035	ND	NS	NS	NS	NS
	3/12/12	NS	NS	NS	NS	NS	3.9	NS	NS	NS
	6/12/12	NS	NS	NS	NS	NS	1.1	NS	NS	NS
	10/13/14 ²	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/16/15	NS	NS	NS	NS	NS	0.098	NS	NS	NS
	9/28/16	ND	ND	ND	ND	ND	NS	NS	NS	NS
	12/13/16	ND	ND	ND	ND	ND	NS	NS	NS	NS
	3/2/17	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/2/17	ND	ND	ND	ND	ND	NS	NS	NS	NS
	6/18/18	ND	ND	ND	ND	ND	NS	NS	NS	NS
	10/1/18	ND	ND	ND	ND	ND	NS	NS	NS	NS
	10/1/18 DUP	ND	ND	ND	ND	ND	NS	NS	NS	NS
	4/8/19	ND	ND	ND	ND	ND	NS	NS	NS	NS
PZ-48	9/9/19	ND	ND	ND	ND	ND	NS	NS	NS	NS
	4/20/20	ND	ND	ND	ND	ND	NS	NS	NS	NS
	9/14/20	ND	ND	ND	ND	ND	NS	NS	NS	NS
	9/28/16	ND	ND	ND	ND	ND	NS	NS	NS	NS
	12/13/16	ND	ND	ND	ND	ND	NS	NS	NS	NS
	3/2/17	ND	ND	ND	ND	ND	NS	NS	NS	NS
	5/2/17	ND	ND	ND	ND	ND	NS	NS	NS	NS
	6/18/18	ND	ND	ND	ND	ND	NS	NS	NS	NS
	10/1/18	ND	ND	ND	ND	ND	NS	NS	NS	NS
	4/8/19	ND	ND	ND	ND	ND	NS	NS	NS	NS

Notes:

Exceeds EPA Region VI Drinking Water MCLs or May 2020 (most current) Tapwater RSLs (Target Risk=1E-06, Hazard Quotient=0.1), if no MCL exists.

¹ Not sampled due to inclement weather.

² PZ-47 was damaged and could not be sampled.

Only compounds that were detected in one or more samples are shown in the table.

Phase I, II, and III detections are also shown on this table. Phase I was conducted in March, June, September, and November 2012. Phase II was conducted October 2014, March, May, and September 2015. Phase III was conducted September and December 2016, February/March and May 2017. The 2018 first-semiannual LTM event was conducted June 2018 and the second semi-annual LTM event was conducted October 2018. The 2019 first semi-annual LTM event was conducted April and the second semi-annual LTM was conducted in September. The 2020 first semi-annual LTM event was conducted in April and the 2020 second semi-annual LTM event was conducted in September.

mg/L = milligrams per liter

CAS - unique numerical identifier assigned by Chemical Abstracts Service (CAS)

DCE - Dichloroethene

EPA - United States Environmental Protection Agency

TABLE 1
GROUNDWATER DATA SUMMARY
COLLIS, INC.
CLINTON, IA

Second Saturated Groundwater Unit																
MONITORING WELL	PARAMETERS (mg/L)	cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	1,1-DCE	1,4-Dioxane	Methane	Ethane	Ethene	Iron	Manganese	Chloride	Sulfate	Nitrogen, Nitrate-Nitrite	
	CAS #	156-59-2	156-60-5	79-01-6	75-01-4	75-35-4	123-91-1	74-82-8	74-84-0	74-85-1	7439-89-6	7439-96-5	10043-52-4	18785-72-3	NA	
	EPA MAY 2020 RSL TAPWATER SCREENING CRITERIA (mg/L)	0.0360	0.360	0.00028	0.000019	0.280	0.00046	NA	NA	NA	1.40	NA	NA	NA	NA	
	EPA DRINKING WATER MCL (mg/L)	0.07	0.100	0.00500	0.0020	0.007	NA	NA	NA	NA	NA	NA	NA	NA	10	
MW-34	3/16/12	0.091	0.0033	0.0170	ND	NS	0.13	0.011	NS	NS	NS	NS	NS	NS	NS	
	6/13/12	0.1	0.0037	0.0270	0.00690	ND	NS	0.0024	NS	NS	NS	NS	NS	NS	NS	
	9/26/2012	0.039	0.0018	0.0200	ND	ND	0.24	0.013	NS	NS	NS	NS	NS	NS	NS	
	11/30/12	0.033	0.0013	0.0160	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	
	10/17/14	0.084	0.0031	0.0230	0.00950	ND	ND	0.19	0.012	ND	0.14	0.33	72	69	0.028	
	3/19/15	0.09	0.0029	0.0210	0.00670	ND	ND	0.15	0.011	ND	ND	0.27	68	78	0.12	
	5/13/15	0.089	0.0026	0.0170	0.02000	ND	ND	0.28	0.017	0.00091 J	ND	0.29	78	78	ND	
	9/17/15	0.11	0.0035	0.0280	0.00400	ND	0.00071	0.24	0.012	ND	0.02 J	0.44	68	75	0.019 J	
	9/29/16	0.1	0.0035	0.0240	0.00460	ND	ND	0.38	0.02	ND	0.051 J	0.51	80	77	ND	
	12/15/16	0.12	0.0036	0.0230	0.00230	ND	ND	0.21	0.011	ND	0.03 J	0.35	60	68	0.015 J	
	12/15/2016 DUP	0.13	0.0036	0.0240	0.00260	ND	ND	0.22	0.011	ND	0.018 J	0.38	42	68	ND	
	3/1/17	0.12	0.0021	0.0170	0.00270	0.00045 J	ND	0.18	0.012	ND	0.0059 J	0.074	77	74	0.033	
	5/4/17	0.11	0.0040	0.0140	0.01500	ND	ND	0.32	0.02	ND	0.055 J	0.75	130	100	ND	
	5/4/2017 DUP	0.12	0.0040	0.0130	0.01400	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	6/1/18	0.1	0.0024	0.0160	0.00240	ND	ND	0.23	0.016	ND	0.033 J	0.69	77	71	ND	
	10/1/18	0.086	0.0031	0.0160	0.00150	0.00067 J	ND	0.19	0.017	0.0026 J	0.019 J	0.51	45	68	ND	
	4/9/19	0.065	0.0010	0.0096	0.00066 J	ND	ND	0.044	ND	ND	ND	0.12	75	65	0.82	
	9/10/19	0.12	0.0031	0.0130	0.00270	0.00084 J	ND	0.17	0.012	ND	ND	0.35	59	55	ND	
	4/20/20	0.067	0.0009 J	0.0081	ND	ND	0.028	0.008	ND	ND	0.26	84	69	0.77		
	9/14/20	0.1	0.0022	0.0057	0.00200	0.00041 J	ND	0.13	0.0087	ND	ND	0.4	55	53	ND	
MW-45	03/16/12	0.019	0.0011	0.00420	ND	ND	NS	ND	ND	NS	NS	NS	NS	NS	NS	
	06/13/12	0.015	ND	0.00400	ND	ND	NS	ND	ND	NS	NS	NS	NS	NS	NS	
	09/26/12	0.01	ND	0.00350	ND	ND	NS	0.025	ND	NS	NS	NS	NS	NS	NS	
	11/30/12	0.01	ND	0.00400	ND	ND	NS	ND	ND	NS	NS	NS	NS	NS	NS	
	10/16/14	0.032	0.0013	0.00520	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	
	03/18/15	0.011	ND	0.00360	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	
	05/12/15	0.02	0.00096 J	0.00590	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	
	09/15/15	0.023	ND	0.00460	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	09/28/16	0.084	0.0029	0.00530	0.00420	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	9/28/16 DUP	0.083	0.0028	0.00530	0.00420	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/14/16	0.031	ND	0.00310	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	12/14/16 DUP	0.035	ND	0.00430	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	02/28/17	0.019	0.00081 J	0.00480	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	05/04/17	0.067	0.00250	0.00620	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	06/19/18	0.048	0.0015	0.00420	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	10/2/18	0.04	0.0014	0.00400	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	
	4/8/19	0.087	0.0025	0.00400	0.0042	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	
	9/9/19	0.085	0.0019	0.00320	0.0047	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	
	4/21/20	0.092	0.0018	0.00240	0.0023	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	
	9/15/20	0.065	0.0015	0.0029	0.00150	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	

Notes:

Exceeds EPA Region VI Drinking Water MCLs or May 2020 (most current) Tapwater RSLs (Target Risk=1E-06, Hazard Quotient=0.1), if no MCL exists.

¹ Not sampled due to inclement weather.

Only compounds that were detected in one or more samples are shown in the table.

Phase I, II, and III detections are also shown on this table. Phase I was conducted in March, June, September, and November 2012. Phase II was conducted October 2014, March, May, and September 2015. Phase III was conducted September and December 2016, February/March and May 2017. The 2018 first semiannual LTM event was conducted June 2018 and the second semi-annual LTM event was conducted October 2018. The 2019 first semi-annual LTM event was conducted April and the second semi-annual LTM event was conducted in September. The 2020 first semi-annual LTM event was conducted in April and the second semi-annual LTM event was conducted in September.

mg/L = milligrams per liter

CAS - unique numerical identifier assigned by Chemical Abstracts Service (CAS)

DCE - Dichloroethene

EPA - United States Environmental Protection Agency

MCL - Maximum Contaminant Level

MW - Monitoring Well

RSL - Regional Screening Level

NA - Not Available

ND - Non-Detect

NS - Not Sampled

PZ - Piezometer

TCE - Trichloroethene

TABLE 1
GROUNDWATER DATA SUMMARY
COLLIS, INC.
CLINTON, IA

Second Saturated Groundwater Unit															
MONITORING WELL	PARAMETERS (mg/L)	cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	1,1-DCE	1,4-Dioxane	Methane	Ethane	Ethene	Iron	Manganese	Chloride	Sulfate	Nitrogen, Nitrate-Nitrite
	CAS #	156-59-2	156-60-5	79-01-6	75-01-4	75-35-4	123-91-1	74-82-8	74-84-0	74-85-1	7439-89-6	7439-96-5	10043-52-4	18785-72-3	NA
	EPA MAY 2020 RSL TAPWATER SCREENING CRITERIA (mg/L)	0.0360	0.360	0.00028	0.000019	0.280	0.00046	NA	NA	NA	1.40	NA	NA	NA	NA
	EPA DRINKING WATER MCL (mg/L)	0.07	0.100	0.00500	0.0020	0.007	NA	NA	NA	NA	NA	NA	NA	NA	10
MW-47S	5/5/10	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/14/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-50	6/12/12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/14/14	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/16/15	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/11/15	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/15	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/16	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/15/16 ¹	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	2/28/17	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/2/17	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/19/18	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/1/18	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/8/19	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/9/19	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/20/20	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/14/20	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-56	5/4/10	0.0468	ND	ND	0.0732	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/15/14	0.042	ND	ND	0.057	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/18/15	0.028	ND	ND	0.043	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/13/15	0.029	ND	ND	0.039	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/17/15	0.018	ND	ND	0.052	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/29/16	0.031	ND	ND	0.045	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	12/15/16	0.035	ND	ND	0.056	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/1/17	0.032	ND	ND	0.039	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	5/4/17	0.044	ND	ND	0.065	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/20/18	0.028	ND	ND	0.043	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	10/1/18	0.027	ND	ND	0.040	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/8/19	0.031	ND	ND	0.040	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/9/19	0.035	ND	ND	0.057	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/21/20	0.036	ND	ND	0.053	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/15/20	0.022	ND	ND	0.052	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

Exceeds EPA Region VI Drinking Water MCLs or May 2020 (most current) Tapwater RSLs (Target Risk=1E-06, Hazard Quotient=0.1), if no MCL exists.

¹ Not sampled due to inclement weather.

Only compounds that were detected in one or more samples are shown in the table.

Phase I, II, and III detections are also shown on this table. Phase I was conducted in March, June, September, and November 2012. Phase II was conducted October 2014, March, May, and September 2015. Phase III was conducted September and December 2016, February/March and May 2017. The 2018 first-semiannual LTM event was conducted June 2018 and the second semi-annual LTM event was conducted October 2018. The 2019 first semi-annual LTM event was conducted April and the second semi-annual LTM event was conducted in September. The 2020 first semi-annual LTM event was conducted in April and the second semi-annual LTM event was conducted in September.

mg/L = milligrams per liter

CAS - unique numerical identifier assigned by Chemical Abstracts Service (CAS)

DCE - Dichloroethene

EPA - United States Environmental Protection Agency

MCL - Maximum Contaminant Level

MW - Monitoring Well

RSL - Regional Screening Level

NA - Not Available

ND - Non-Detect

NS - Not Sampled

PZ - Piezometer

TCE - Trichloroethene

TABLE 1
GROUNDWATER DATA SUMMARY
SSW COLLIS
CLINTON, IA

Third Saturated Groundwater Unit															
MONITORING WELL	PARAMETERS (mg/L)	cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	1,1-DCE	1,4-Dioxane	Methane	Ethane	Ethene	Iron	Manganese	Chloride	Sulfate	Nitrogen, Nitrate-Nitrite
	CAS #	156-59-2	156-60-5	79-01-6	75-01-4	75-35-4	123-91-1	74-82-8	74-84-0	74-85-1	7439-89-6	7439-96-5	10043-52-4	18785-72-3	NA
	EPA MAY 2020 RSL TAPWATER SCREENING CRITERIA (mg/L)	0.0360	0.360	0.00028	0.000019	0.280	0.00046	NA	NA	NA	1.4	NA	NA	NA	NA
	EPA DRINKING WATER MCL (mg/L)	0.0700	0.10	0.0050	0.002	0.007	NA	NA	NA	NA	NA	NA	NA	NA	10
MW-42	3/16/12	0.190	0.0077	0.240	0.043	0.003	NS	0.22	0.007	NS	NS	NS	NS	NS	NS
	6/14/12	0.220	0.0076	0.290	0.04	0.0034	NS	NS	0.0028	NS	NS	NS	NS	NS	NS
	9/26/12	0.180	0.0074	0.170	0.045	0.0031	NS	ND	NS	NS	NS	NS	NS	NS	NS
	11/29/12	0.180	0.007	0.160	0.043	0.0034	NS	0.25	0.013	NS	NS	NS	NS	NS	NS
	10/16/14	0.181	0.0077	0.260	0.039	0.005	ND	0.30	0.014	ND	0.071	0.32	77	100	ND
	3/20/15	0.180	0.0063	0.160	0.029	0.003	ND	0.19	0.0068	0.00035 J	0.084	0.17	65	100	0.093
	5/13/15	0.230	0.006	0.160	0.026	0.0029	0.0098	0.21	0.0057	0.00045 J	0.093	0.26	60	97	ND
	9/15/15	0.330	0.0078	0.087	0.038	0.0031	0.0011	0.18	0.0054	ND	0.034	0.27	0.059	0.096	ND
	9/27/16	0.360	0.0095	0.240	0.032	0.0035	ND	0.25	0.0068	ND	0.11	0.30	60	110	ND
	12/13/16	0.350	0.0088	0.230	0.032	0.0035	ND	0.27	0.0077	ND	0.16	0.28	60	110	ND
	3/2/17	0.360	0.0082	0.270	0.027	0.003	ND	0.27	0.0068	ND	0.24	0.30	60	100	ND
	5/4/17	0.340	0.011	0.300	0.031	0.0034	ND	0.18	0.0041	0.00072 J	0.13	0.32	61	98	ND
	6/19/18	0.250	0.0078	0.180	0.037	0.0025	ND	0.260	0.012	0.0051	0.12	0.34	75	100	ND
	6/19/18 DUP	0.240	0.0092	0.190	0.032	0.0029	ND	0.240	0.011	0.0037 J	0.12	0.3	73	100	ND
	10/1/18	0.320	0.011	0.260	0.027	0.0035	ND	0.190	0.0091	0.0015 J	0.049 J	0.28	57	110	ND
	10/1/18 DUP	0.260	0.010	0.240	0.028	0.0036	ND	0.190	0.0097	0.0019 J	0.055 J	0.33	50	110	ND
	4/9/2019	0.280	0.016	0.250	0.047	0.0026	ND	0.310	ND	ND	0.1	0.29	68	100	ND
	4/9/2019 DUP	0.280	0.010	0.290	0.049	0.0026	ND	0.280	ND	0.078 J	0.3	72	110	ND	ND
	9/10/2019	0.260	0.0098	0.220	0.039	0.0036	ND	0.240	0.01	ND	0.17	0.31	67	99	ND
	4/20/2020	0.290	0.0099	0.250	0.059	0.003	ND	0.340	0.011	0.0074	ND	0.3	66	94	ND
	4/20/2020 DUP	0.250	0.01	0.190	0.064	0.0026	ND	0.230	0.011	0.0075	0.061 J	0.26	63	93	ND
	9/14/2020	0.270	0.009	0.190	0.032	0.0029	ND	0.200	0.011	0.0033 J	ND	0.32	71	98	ND
	9/14/20 DUP	0.300	0.01	0.240	0.038	0.0033	ND	0.220	0.0085	0.0032 J	0.077 J	0.28	64	95	ND
MW-53	3/16/12	0.0240	0.0012	ND	ND	ND	NS	0.03	ND	NS	NS	NS	NS	NS	NS
	6/13/12	0.0180	ND	ND	0.0016	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS
	9/26/12	0.0160	ND	ND	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS
	11/29/12	0.0031	ND	ND	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS
	10/13/14	0.0043	ND	ND	ND	ND	NS	0.026	ND	ND	0.24	0.18	30	56	ND
	3/17/15	0.0170	ND	ND	0.0016	ND	NS	0.025	ND	ND	0.024 J	0.049	25	44	ND
	5/12/15	0.0150	0.00075 J	ND	0.0014	ND	NS	0.023	ND	ND	0.46	0.048	24	40	ND
	9/16/15	0.0190	ND	ND	0.0014	ND	NS	0.03	ND	ND	0.11	0.048	23	44	0.011 J
	9/29/16	0.0170	ND	ND	ND	ND	ND	0.031	ND	ND	0.49	0.450	60	41	ND
	12/14/16	0.0067	ND	ND	ND	ND	ND	0.01	ND	ND	0.43	0.042	25	42	ND
	2/28/17	0.0064	0.00035 J	ND	0.00056 J	ND	ND	0.018	ND	ND	1.4	0.043	22	41	ND
	2/28/17 DUP	0.0070	0.00036 J	ND	0.00070 J	ND	ND	0.014	ND	ND	0.98	0.040	21	41	ND
	5/4/17	0.0074	ND	ND	ND	ND	ND	0.011	ND	ND	0.62	0.049	24	40	ND
	5/4/17 DUP	0.0076	ND	ND	ND	ND	ND	0.0098	ND	ND	0.52	0.048	23	39	ND
	6/19/18	0.0095	ND	ND	0.00085 J	ND	ND	0.013	ND	ND	0.32	0.049	22	37	ND
	10/2/18	0.0120	0.00067 J	ND	0.0012	ND	ND	0.019	0.0017 J	0.00071 J	0.096	0.049	30	35	ND
	4/8/19	0.0120	0.00059 J	ND	0.0012	ND	ND	0.021	ND	ND	0.18	0.045	23	35	ND
	9/9/19	0.0110	0.00056 J	ND	ND	ND	ND	0.012	ND	ND	0.27	0.048	18	35	ND
	9/9/2019 (DUP)	0.0110	0.00059 J	ND	ND	ND	ND	0.014	ND	ND	0.51	0.047	18	34	ND
	4/21/20	0.0130	0.00060 J	ND	0.0014	ND	ND	0.021	ND	ND	0.24	0.045	20	34	ND
	9/15/20	0.0110	0.000589 J	ND	0.0017	ND	ND	0.0091	ND	ND	0.0076 J	0.044	19	31	ND

Notes:

Exceeds EPA Region VI Drinking Water MCLs or May 2020 (most current) Tapwater RSLs (Target Risk=1E-06, Hazard Quotient=0.1), if no MCL exists.

TABLE 1
GROUNDWATER DATA SUMMARY
SSW COLLIS
CLINTON, IA

Fourth Saturated Groundwater Unit				
MONITORING WELL	PARAMETERS (mg/L)	cis-1,2-DCE	TCE	Vinyl Chloride
	CAS #	156-59-2	79-01-6	75-01-4
	EPA MAY 2020 RSL TAPWATER SCREENING CRITERIA (mg/L)	0.0360	0.00028	0.000019
	EPA DRINKING WATER MCL (mg/L)	0.0700	0.005	0.002
MW-43	10/15/14	0.0068	ND	ND
	3/18/15	0.0056	ND	0.0015
	5/12/15	0.0019	ND	0.0019
	9/16/15	0.0013	ND	0.0039
	9/29/16	0.0045	ND	0.0022
	12/15/16	ND	ND	ND
	2/28/17	0.00058 J	ND	0.0027
	5/4/17	0.0049	ND	ND
	6/19/18	0.003	ND	0.0024
	10/1/18	0.0028	ND	0.0027
	4/8/19	0.0023	ND	ND
	9/9/19	0.0022	ND	ND
	4/21/20	0.0023	ND	0.0011
	4/21/2020 DUP	0.0023	ND	0.001
	9/15/20	0.0032	ND	0.0012

Notes:

Exceeds EPA Region VI Drinking Water MCLs or May 2020 (most current) Tapwater RSLs (Target Risk=1E-06, Hazard Quotient=0.1), if no MCL exists.

Only compounds that were detected in one or more samples are shown in the table. Phase I was conducted in March, June, September, and November 2012. Phase II was conducted October 2014, March, May, and September 2015. Phase III was conducted September and December 2016, February/March and May 2017. The 2018 first-semianual LTM event was conducted June 2018 and the second semi-annual LTM event was conducted October 2018. The 2019 first semi-annual LTM event was conducted in April and the second semi-annual LTM event was conducted in September. The 2020 first semi-annual event was conducted in April and the second semi-annual event was conducted in September.

mg/L = milligrams per liter

CAS - unique numerical identifier assigned by Chemical Abstracts Service (CAS)

DCE - Dichloroethene

EPA - United States Environmental Protection Agency

MCL - Maximum Contaminant Level

MW - Monitoring Well

RSL - Regional Screening Level

NA - Not Available

ND - Non-Detect

NS - Not Sampled

PZ - Piezometer

TCE- Trichloroethene

TABLE 2
WATER ELEVATION SUMMARY
2020 SECOND-SEMI ANNUAL LTM GROUNDWATER MONITORING
COLLIS, INC., CLINTON IOWA

Well ID	TOC ELEVATION (ft amsl)	Constructed Well Depth (ft bgs)	Nominal Screen Interval (ft bgs)	Time	DTW (from TOC)	Elevation (ft amsl)
Measurement Date:					9/14/20	
MW-34	589.29	31.6	25-30	1400	4.58	584.71
MW-38	585.47	9.95	5-10	1333	3.14	582.33
MW-39	587.47	13.91	9-14	1330	3.28	584.19
MW-42	589.25	50.2	42-47	1358	4.02	585.23
MW-43*	585.21	99.38	94.75-99.75	1335	0.0	585.21
MW-45*	582.41	25.59	19-24	1407	0.0	582.41
MW-47S	583.17	17.93	13-18	1349	3.09	580.08
MW-50	587.27	24.77	20-25	1339	3.75	583.52
MW-50S	587.51	12.28	7.5-12.5	1341	2.95	584.56
MW-53*	582.73	52.24	45-50	1411	0.0	582.73
MW-56	582.33	30	25-30	1415	0.80	581.53
PZ-47	583.17	10.89	1-11	1347	3.52	579.65
PZ-48	584.27	10.65	1-11	1353	3.60	580.67

Notes:

* Artesian conditions identified

DTW - Depth to water

TOC - Top of casing

ft bgs - feet below ground surface

ft amsl - feet above mean sea level

Table 3
Groundwater Field Parameter Readings
2020 Second Semi-Annual LTM Groundwater Monitoring
Collis Inc., Clinton, Iowa

Monitoring Well	Collection Date	Temperature (°C)	pH (S.U.)	Specific Conductivity (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)
PZ-47	9/28/16	17.61	6.61	0.962	0.38	5.3	-30.6
	12/13/16	7.61	6.65	1.05	6.13	1000	-79.6
	2/28/17*	NA	NA	NA	NA	NA	NA
	5/2/17	10.36	6.53	0.791	2.48	300	35.1
	6/18/2018	19.11	7.11	0.953	9.22	44.7	59.9
	10/1/2018	15.61	7.52	0.926	0.0	46.2	-76.5
	4/8/2019	7.17	6.26	0.644	2.97	7.6	24.8
	9/9/2019	16.16	6.88	0.807	0.42	11.7	-69.9
	4/20/2020	8.6	6.6	0.78	0.43	7	22.8
	9/14/2020	17.5	6.28	0.82	0.52	20.2	-21.7
PZ-48	9/28/16	16.61	6.73	0.902	1.82	75.3	-1.8
	12/13/16	10.78	6.9	0.873	5.48	OOR	-270
	2/28/17	9.67	6.65	0.748	33.1	167	151.8
	5/2/17	11.76	6.77	0.595	4.08	5.45	79.2
	6/18/18	20.55	7.45	0.677	9.8	46.8	53.9
	10/1/18	16.76	7.48	0.631	3.18	44.2	24.2
	4/8/19	5.7	6.49	0.458	4.2	26.6	52
	9/9/19	16.77	7.2	0.566	0.98	37.7	-40.2
	4/20/2020	8.6	6.71	0.629	0.91	20.6	35.7
	9/14/2020	16.6	6.5	0.73	0.7	42.8	-10.7
MW-34	9/29/16	14.76	7	1.183	0.12	1.75	-46.8
	12/15/16	11.7	7.08	0.999	2.55	1.8	228.6
	3/1/17	11.09	7.04	0.714	0.64	19	-33.2
	5/4/17	12.45	7.49	1.014	0.79	1.67	-11.9
	6/19/18	13.83	7.17	0.975	0.46	1.36	0.7
	10/1/18	15.04	7.84	0.835	0.9	2.4	-21.6
	4/9/19	11.71	6.9	0.875	1.59	1.37	51.6
	9/10/19	16.26	7.11	0.766	0.32	1.4	-65.7
	4/20/2020	11.4	6.95	1.01	0.13	5.1	77.9
	9/14/2020	15.6	6.75	0.94	0.02	0.2	-87.6
MW-38	9/29/16	20.21	6.84	1.655	0.18	11	-81.4
	12/15/16	11.99	6.88	1.364	3.48	10.2	77
	2/28/17	9.2	6.48	1.092	0.23	10.9	-65.8
	5/4/17	12.08	7.13	1.588	0.99	2.6	-6.2
	6/19/18	15.28	6.91	1.642	0.44	5.17	-29.9
	10/1/18	19.28	7.34	1.857	0.34	26.4	-26.3
	4/8/19	9.11	6.7	1.176	1.7	3.01	21.8
	9/9/19	19.19	6.91	1.117	0.31	2.1	-42.7
	4/21/20	9.1	6.95	1.44	4.56	8.2	-27.6
	9/15/20	19.1	6.66	1.43	2.68	0.02	-56.2
MW-39	9/29/16	18.04	6.74	2.774	0.15	6.8	-76.5
	12/15/16	NS	NS	NS	NS	NS	NS
	3/2/17	12.99	6.76	2.035	0.55	18.1	-46.2
	5/4/17	14.36	6.98	2.614	1.18	71.5	-26
	6/19/18	15.26	6.84	2.656	0.58	5.07	-18.2
	10/2/18	16.8	7.38	2.45	0.02	6.5	-37.0
	4/9/19	13.52	6.6	1.965	0.63	0.92	-17.2
	9/10/19	17.7	6.82	2.011	0.23	2.2	-43.6
	4/21/20	13.6	6.73	2.41	0.6	1.58	-10.2
	9/15/20	17.3	6.63	2.33	0.11	0.02	-44.6
MW-42	9/27/16	15.06	6.68	1.027	0.17	1.29	-18.3
	12/13/16	9.9	7.13	1.085	1.44	3.3	-43.1
	3/2/17	11.29	7.11	0.784	0.57	1.34	-38.8
	5/4/17	13.66	7.44	1.047	1.26	0.9	-6.9
	6/19/18	14.25	7.16	1.111	0.31	4.49	37.2
	10/1/18	14.56	7.98	0.932	0.9	6.2	29.8
	4/9/19	13.11	7.03	0.883	2.59	1.36	-10.4
	9/10/19	16.05	7.19	0.851	0.39	1.0	-45.2
	4/20/2020	12.9	7.07	0.99	0.12	0.98	15.8
	9/14/2020	15.7	6.75	1.05	0.07	5.1	-65.2
MW-43	9/29/16	14.99	7.45	0.667	0.13	11.2	-144.9
	12/15/16	11.56	7.65	0.639	0.56	1.0	-189.2
	2/28/17	13.21	7.8	0.478	0.36	4.82	-142.3
	5/4/17	13.1	7.61	0.655	0.79	1.43	-25.9
	6/19/18	17.39	7.6	0.654	0.55	2.71	-142.6
	10/1/18	15.33	8.47	0.549	0.32	4.5	-142.6
	4/8/19	14.57	7.35	0.57	0.7	1.59	-60.3
	9/9/19	17.89	7.76	0.537	0.13	1.0	-126.8
	4/21/20	12.6	7.27	0.639	0.11	0.0	1.3
	9/15/20	15.2	7	0.66	0.11	0.0	-75.9
MW-45	9/28/16	13.15	7.16	0.856	3.28	39	196.3
	12/14/16	9.95	7.11	0.863	0.5	18.4	165.2
	2/28/17	12.07	7.17	0.639	0.25	39.2	16.5
	5/4/17	11.75	7.4	0.838	0.71	6.9	9.1
	6/19/18	12.64	7.21	0.831	0.17	4.01	-1.5
	10/2/18	14.22	8.07	0.651	0.02	9.1	58.0
	4/8/19	11.52	6.88	0.671	3.05	10.6	71.9
	9/9/19	12.78	7.18	0.600	0.31	5.1	29.7
	4/21/20	10.8	7.32	0.800	7.52	51.7	72.6
	9/15/20	11.6	6.83	0.800	0.14	21.2	10.9

Table 3
Groundwater Field Parameter Readings
2020 Second Semi-Annual LTM Groundwater Monitoring
Collis Inc., Clinton, Iowa

Monitoring Well	Collection Date	Temperature (°C)	pH (S.U.)	Specific Conductivity (mS/cm)	DO (mg/L)	Turbidity (NTU)	ORP (mV)
MW-47s	9/28/16	12.77	6.97	0.736	1.02	10.6	-100
	12/15/16	NS	NS	NS	NS	NS	NS
	2/28/17	9.91	7.01	0.47	2.11	30.7	-51.1
	5/2/17	9.92	6.87	0.602	1.8	28.1	-62.8
	6/19/18	11.57	7.12	0.679	0.31	14.7	-68.8
	10/1/18	13.85	7.92	0.608	0	0.09	-39.0
	4/8/19	9.19	6.51	0.532	1.76	4.7	-64.2
	9/9/19	14.21	7.06	0.502	0.4	5.7	-96.2
	4/20/2020	9.5	7.31	0.638	9.26	51.7	-29.4
	9/14/2020	13.1	6.51	0.69	0.6	8.2	-92.7
MW-50	9/29/16	15.87	6.95	2.422	0.2	9.19	-102.3
	12/15/16	13.75	6.82	2.529	0.4	1.43	-97.1
	3/1/17	12.55	6.99	1.931	0.48	15	-92.6
	5/4/17	13.54	7.23	2.496	1.18	1.03	-55.6
	6/20/18	13.75	7.04	2.53	0.5	4.62	-0.1
	10/1/18	14.77	7.71	0.1932	0.44	20.2	53.7
	4/9/19	12.59	6.89	1.99	0.99	4.62	-36.1
	9/9/19	15.56	7.04	1.805	0.18	1.3	-57.6
	4/21/20	12.3	6.99	2.28	0.11	9.6	-6.2
	9/15/20	15	6.85	2.23	0.22	9	-97.6
MW-50S	9/29/16	17.09	7.01	2.065	0.22	39.3	-105.2
	12/15/16	13.34	6.89	2.08	0.5	16.6	-99.8
	3/1/17	10.32	7.12	1.192	0.71	2.79	-29.1
	5/4/15	11.9	7.35	1.8	0.92	5.65	-82.8
	6/20/18	13.65	7.15	1.711	0.27	2.18	-14.3
	10/2/18	15.73	7.66	1.04	0.1	14.2	-8.0
	4/9/19	10.66	6.88	1.307	1.4	4.72	-12.8
	9/9/19	17.11	7.16	1.04	0.25	1.1	-74.4
	4/21/20	10.7	7.09	1.46	1.27	13.4	-36.8
	9/15/20	16.5	6.89	1.44	0.33	7.6	-87.9
MW-53	9/29/16	11.78	7.35	0.756	0.27	15.5	-96.1
	12/14/16	9.3	7.35	0.761	0.4	1	-75.5
	2/28/17	11.51	7.29	0.5444	0.29	6.53	-85.8
	5/4/17	11.97	7.55	0.735	0.6	1.2	-40.2
	6/19/18	13.69	7.35	0.724	0.22	1.66	-18.4
	10/2/18	11.1	8.11	0.559	0.07	9	-63.0
	4/8/19	12.19	7.06	0.596	3.71	2.06	-46.7
	9/9/19	12.48	7.36	0.521	0.21	2.1	-59.2
	4/21/20	11.1	7.2	0.7	0.21	5.81	-1.6
	9/15/20	11.6	7.02	0.7	0.06	4.1	-70.2
MW-56	9/29/16	13.16	6.95	0.739	1.54	75.3	-94.4
	12/15/16	NS	NS	NS	NS	NS	NS
	2/28/17	11.12	6.97	0.513	0.31	46	-93.5
	5/2/17	11.24	6.81	0.632	1.97	85.9	-101.2
	6/19/18	13.44	7.02	0.691	0.17	2.6	-72.2
	10/2/18	13.61	7.59	0.531	0.35	1.7	-73.0
	4/8/19	9.89	6.67	0.512	10.01	16.7	-36.0
	9/9/19	13.29	6.98	0.514	0.21	3.0	-106.7
	4/20/2020	10.5	6.71	0.675	1.22	11.7	-41.9
	9/15/2020	12.5	6.67	0.69	0.5	4.6	-98.2

Notes:

* PZ-47 dried up before field parameters could be collected.

Phase III groundwater field parameters are included in the table. Phase III was conducted during Q3 and Q4 of 2016 and Q1 and Q2 of 2017

The 2018 first semi-annual (SA) long term monitoring (LTM) event was conducted in June 2018, the 2018 second SA LTM event was conducted in October 2018, and the 2019 first SA LTM event was conducted in April 2019. The 2020 first SA LTM was conducted April 2020 and the second SA LTM was conducted September 2020.

Only wells included in the LTM are shown in the table

*C - Degrees Celsius

mg/L - milligram per liter

mS/cm - millisiemens per centimeter

mV - millivolt

NM - Not Measured

NS - not sampled

NTU - Nephelometric Turbidity Unit

ORP - Oxidation Reduction Potential

S.U. - pH Standard Units

OOR - Out of Range on the turbidity meter (1000+NTU)

TABLE 4
VAPOR INTRUSION SCREENING
COLLIS, INC.
CLINTON, IA

PARAMETERS (ug/L)		cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	1,1-DCE
CAS #	156-59-2	156-60-5	79-01-6	75-01-4	75-35-4	
VISL Target Groundwater Concentration (µg/L) TCR:10 ⁻⁵ THQ:0.1	NA	NA	1.9**	2.45	82.1	
VISL Target Groundwater Concentration (µg/L) TCR:10 ⁻⁵ THQ:1	NA	NA	19**	24.5	821	
Monitoring Well	Sample Date		First Saturated	Groundwater Unit		
MW-38	9/29/16	99	5.4	ND	84	ND
	12/15/16	88	3.2	ND	28	ND
	2/28/17	87	3.2	ND	84	ND
	5/4/17	120	7.7	ND	81	ND
	6/19/18	120	5.2	ND	82	ND
	10/1/18	130	5.6	ND	97	ND
	4/8/19	100	3.2	ND	55	ND
	9/9/19	130	3.6	ND	83	ND
	4/21/20	120	3.1	ND	49	ND
	9/15/20	130	5.2	ND	55	ND
MW-39	9/29/16	190	15	ND	82	1.6
	12/15/2016*	NS	NS	NS	NS	NS
	3/2/17	260	11	ND	65	1.2
	5/4/17	270	16	ND	93	1.9
	6/19/18	290	16	ND	85	1.9
	8/19/18 DUP	260	16	ND	74	2.1
	10/2/18	210	11	ND	58	1.2
	4/9/19	210	8.8	ND	75	1.0
	9/10/19	230	11	ND	110	1.5
	9/10/2019 DUP	240	11	2	100	1.6
	4/21/20	260	11	ND	95	1.3
	9/15/20	190	12	ND	62	1.5
	9/15/2020 DUP	190	10	ND	92	1.3
MW-50S	9/29/16	6.8	ND	ND	42	ND
	12/15/16	9.8	ND	ND	43	ND
	3/1/17	8.4	ND	ND	25	ND
	3/1/17 DUP	8.8	ND	ND	27	ND
	5/4/17	15	ND	ND	52	ND
	6/20/18	8.1	ND	ND	45	ND
	10/2/18	5.8	ND	ND	30	ND
	4/9/19	7.7	ND	ND	37	ND
	9/9/19	6.1	ND	ND	43	ND
	4/21/20	4.3	ND	ND	33	ND
	9/15/20	2.7	ND	ND	35	ND
	9/28/16	ND	ND	ND	ND	ND
PZ-47	12/13/16	ND	ND	ND	ND	ND
	3/2/17	ND	ND	ND	ND	ND
	5/2/17	ND	ND	ND	ND	ND
	6/18/18	ND	ND	ND	ND	ND
	10/1/18	ND	ND	ND	ND	ND
	10/1/18 DUP	ND	ND	ND	ND	ND
	4/8/19	ND	ND	ND	ND	ND
	9/9/19	ND	ND	ND	ND	ND
	4/20/20	ND	ND	ND	ND	ND
	9/14/20	ND	ND	ND	ND	ND
PZ-48	9/28/16	ND	ND	ND	ND	ND
	12/13/16	ND	ND	ND	ND	ND
	3/2/17	ND	ND	ND	ND	ND
	5/2/17	ND	ND	ND	ND	ND
	6/18/18	ND	ND	ND	ND	ND
	10/1/18	ND	ND	ND	ND	ND
	4/8/19	ND	ND	ND	ND	ND
	9/9/19	ND	ND	ND	ND	ND
	4/20/20	ND	ND	ND	ND	ND
	9/14/20	ND	ND	ND	ND	ND

Notes:

Exceeds VISL (Target Cancer Risk = 1E-06, Target Hazard Quotient = 0.1)

Exceeds VISL (Target Cancer Risk = 1E-05, Target Hazard Quotient = 1)

Phase III was conducted September and December 2016, February/March and May 2017. The 2018 first semi-annual LTM event was conducted June 2018. The 2018 second semi-annual LTM event was conducted October 2018. The 2019 first semi-annual LTM event was conducted April 2019 and the second semi-annual event was conducted in September 2019. The 2020 first semi-annual LTM was conducted in April and the second semi-annual LTM event was conducted in September 2020.

* MW-39, MW-47S and MW-56 were not sampled during Q4 2016 (Phase III) due to inclement weather.

** TCE target groundwater concentrations for vapor intrusion screening were back calculated from the EPA Region 7 action levels for TCE in air: 6 ug/m³ for an eight-hour commercial/industrial work shift per EPA instructions provided in their letter comments to BB&E dated January 26, 2017.

VISL Target Groundwater Concentrations were calculated using the EPA Vapor Intrusion Screening Level Calculator for commercial exposure, updated May 2018. VISL comparisons were not included for the Third and Fourth Saturated Units.

Only compounds that were detected in one or more samples are shown in the table.

µg/L - micrograms per liter

CAS - unique numerical identifier assigned by Chemical Abstracts Service (CAS)

DCE - Dichloroethene

J- analyte is present at an estimated concentration between the MDL and Reporting Limit (RL)

LTM - Long Term Monitoring

MDL - Method Detection Limit

MW - Monitoring Well

NA - Not Available

ND - Non-Detect

NS - Not Sampled

PZ - Piezometer

TCE- Trichloroethene

TCR - target cancer risk

THQ - target hazard quotient

VISL - vapor intrusion screening level

TABLE 4
VAPOR INTRUSION SCREENING
COLLIS, INC.
CLINTON, IA

PARAMETERS (ug/L)		cis-1,2-DCE	trans-1,2-DCE	TCE	Vinyl Chloride	1,1-DCE
CAS #	156-59-2	156-60-5	79-01-6	75-01-4	75-35-4	
VISL Target Groundwater Concentration (ug/L) TCR: 10 ⁻⁵ THQ: 0.1	NA	NA	1.9**	2.45	82.1	
VISL Target Groundwater Concentration (ug/L) TCR: 10 ⁻⁵ THQ: 1	NA	NA	19**	24.5	821	
Monitoring Well	Sample Date	Second Saturated Groundwater Unit				
MW-34	9/29/16	100	3.5	24	4.6	ND
	12/15/16	120	3.6	23	2.3	ND
	12/15/2016 DUP	130	3.6	24	2.6	ND
	3/1/17	120	2.1	17	2.7	0.45 J
	5/4/17	120	4.0	14	15	ND
	6/19/18	100	2.4	16	2.4	ND
	10/1/18	86	3.1	16	1.5	0.67 J
	4/9/19	65	1	9.6	0.66 J	ND
	9/10/19	120	3.1	13	2.7	0.84 J
	4/20/20	67	0.9	8.1	ND	ND
MW-45	9/14/20	100	2.2	5.7	2	0.41 J
	9/28/16	84	9	5.3	4.2	ND
	12/14/16	31	ND	3.1	ND	ND
	12/14/2016 Dup	35	ND	4.3	ND	ND
	2/28/17	19	0.81 J	4.8	ND	ND
	5/4/17	67	2.5	6.2	ND	ND
	6/19/18	48	1.5	4.2	ND	ND
	10/2/18	40	1.4	4.0	ND	ND
	4/8/19	87	2.5	4.0	4.2	ND
	9/9/19	85	1.9	3.2	4.7	ND
MW-47S	4/21/20	92	1.8	2.4	2.3	ND
	9/15/20	65	1.5	2.9	1.5	ND
	9/28/16	ND	ND	ND	ND	ND
	12/15/16*	NS	NS	NS	NS	NS
	2/28/17	ND	ND	ND	ND	ND
	5/4/17	ND	ND	ND	ND	ND
	6/19/18	ND	ND	ND	ND	ND
	10/1/18	ND	ND	ND	ND	ND
	4/8/19	ND	ND	ND	ND	ND
	9/9/19	ND	ND	ND	ND	ND
MW-50	4/20/20	ND	ND	ND	ND	ND
	9/14/20	ND	ND	ND	ND	ND
	9/29/16	31	ND	ND	45	ND
	12/15/16	35	ND	ND	56	ND
	3/1/17	32	ND	ND	39	ND
	5/4/17	44	ND	ND	65	ND
	6/19/18	28	ND	ND	43	ND
	10/1/18	27	ND	ND	40	ND
	4/8/19	31	ND	ND	40	ND
	9/9/19	35	ND	ND	57	ND
MW-56	4/21/20	36	ND	ND	53	ND
	9/15/20	22	ND	ND	52	ND
	9/29/16	ND	ND	ND	ND	ND
	12/15/2016*	NS	NS	NS	NS	NS
	2/28/17	ND	ND	ND	ND	ND
	5/2/17	ND	ND	ND	ND	ND
	6/19/18	ND	ND	ND	ND	ND
	10/2/18	ND	ND	ND	ND	ND
	4/8/19	ND	ND	ND	ND	ND
	4/8/19 DUP	ND	ND	ND	ND	ND

Notes:

 Exceeds VISL (Target Cancer Risk = 1E-06, Target Hazard Quotient = 0.1)
 Exceeds VISL (Target Cancer Risk = 1E-05, Target Hazard Quotient = 1)

Phase III was conducted September and December 2016, February/March and May 2017. The 2018 first semi-annual LTM event was conducted June 2018. The 2018 second semi-annual LTM event was conducted October 2018. The 2019 first semi-annual LTM event was conducted April 2019 and the second semi-annual event was conducted in September 2019. The 2020 first semi-annual LTM event was conducted in April and the second semi-annual event was conducted in September.

* MW-39, MW-47S and MW-56 were not sampled during Q4 2016 (Phase III) due to inclement weather.

** TCE target groundwater concentrations for vapor intrusion screening were back calculated from the EPA Region 7 action levels for TCE in air, 6 ug/m³ for an eight-hour commercial/industrial work shift per EPA instructions provided in their letter comments to BB&E dated January 26, 2017.

VISL Target Groundwater Concentrations were calculated using the EPA Vapor Intrusion Screening Level Calculator for commercial exposure, updated May 2018. VISL comparisons were not included for the Third and Fourth Saturated Units.

Only compounds that were detected in one or more samples are shown in the table.

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CAS - unique numerical identifier assigned by Chemical Abstracts Service (CAS)

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J-analyte is present at an estimated concentration between the MDL and Reporting Limit (RL)

LTM - Long Term Monitoring

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MW - Monitoring Well

NA - Not Available

ND - Non-Detect

NS - Not Sampled

PZ - Piezometer

TCE - Trichloroethene

TCR - target cancer risk

THQ - target hazard quotient

VISL - vapor intrusion screening level

TABLE 5
LTM GROUNDWATER MNA RESULTS
COLLIS, Inc.
CLINTON, IA

	MW-34									
	Phase III Quarterly LTM				Semi-annual LTM					
	Q3 2016	Q4 2016	Q1 2017	Q2 2017	SA 1 2018	SA 2 2018	SA 1 2019	SA 2 2019	SA 1 2020	SA 2 2020
Favorable Conditions*										
DO (<0.5 mg/L)	0.12	2.55	0.64	0.79	0.46	0.9	1.59	0.32	0.13	0.02
ORP (<50 mV good; <-100 mV better)	-46.8	228.6	-33.2	-11.9	0.7	-21.7	51.6	-65.7	77.9	-87.6
pH (5-9 S.U.)	7	7.08	7.04	7.49	7.17	7.48	6.9	7.11	6.95	6.75
Sulfate (<20,000 ug/L)	77,000	68,000	74,000	100,000	71,000	68,000	65,000	55,000	69,000	53,000
Iron (>1,000 ug/L)	51 J	18	5.9 J	55 J	33 J	19 J	ND	ND	ND	ND
Nitrate/Nitrite (<1,000 ug/L)	ND	ND	33	ND	ND	ND	820	ND	770	ND
Daughter Product: cis-1,2 DCE (ug/L)	100	130	120	120	100	86	65	120	67	100
Daughter Product: trans-1,2 DCE (ug/L)	3.5	3.6	2.1	4	2.4	3.1	1	3.1	0.9	2.2
Daughter Product: 1,1 DCE (ug/L)	ND	ND	0.45 J	ND	ND	0.67 J	ND	0.84 J	ND	0.41 J
Daughter Product: vinyl chloride (ug/L)	4.6	2.6	2.7	15	2.4	1.5	0.66 J	2.7	ND	2
Dissolved Gases: ethene (ug/L)	ND	ND	ND	ND	ND	2.6 J	ND	ND	ND	ND
Dissolved Gases: ethane (ug/L)	20	11	12	20	16	17	ND	12	8	8.7
Dissolved Gases: methane (>500 ug/L)	380	220	180	320	230	190	44	170	28	130

Notes:

*Reference: Wiedemeier, et al., 1998, Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater.
MNA groundwater results shown are from Phase III LTM conducted quarterly 2016-2017; the 2018 first semi-annual (SA) LTM conducted June 2018; the 2018 second SA LTM conducted October 2018; the 2019 first SA LTM conducted April 2019 and the second SA LTM conducted September 2019; the 2020 first SA LTM conducted in April and the second SA LTM conducted in September.

1,1 DCE = 1,1 dichloroethylene

cis-1,2 DCE = cis-1,2-dichloroethylene

DO = Dissolved Oxygen

J = analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit

LTM = Long Term Monitoring

MNA = Monitored Natural Attenuation

mg/L = milligrams per liter

mV = millivolt

ND = non-detect

NS = not sampled

SA = Semi-annual

S.U.= standard units

trans-1,2 DCE = trans-1,2-dichloroethylene

ug/L = micrograms per liter

Red = does not meet favorable conditions

Green = meets favorable conditions

TABLE 5
LTM GROUNDWATER MNA RESULTS
COLLIS, Inc.
CLINTON, IA

Favorable Conditions*	MW-42									
	Phase III Quarterly LTM				Semi-annual LTM					
	Q3 2016	Q4 2016	Q1 2017	Q2 2017	SA 1 2018	SA 2 2018	SA 1 2019	SA 2 2019	SA 1 2020	SA 2 2020
DO (<0.5 mg/L)	0.17	1.44	0.57	1.26	0.31	0.9	2.59	0.39	0.12	0.07
ORP (<50 mV good; <-100 mV better)	-18.3	-43.1	-38.8	-6.9	37.2	29.8	-10.4	-45.2	15.8	-65.2
pH (5-9 S.U.)	6.68	7.13	7.11	7.44	7.16	7.98	7.03	7.19	7.07	6.75
Sulfate (<20,000 ug/L)	110,000	110,000	100,000	98,000	100,000	110,000	110,000	99,000	94,000	98,000
Iron (>1,000 ug/L)	300	160	240	130	120	55 J	100	170	61	77 J
Nitrate/Nitrite (<1,000 ug/L)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Daughter Product: cis-1,2 DCE (ug/L)	360	350	360	340	250	320	280	260	290	290
Daughter Product: trans-1,2 DCE (ug/L)	9.5	8.8	8.2	11	9.2	11	16	9.8	10	10
Daughter Product: 1,1 DCE (ug/L)	3.5	3.5	3	3.4	2.9	3.6	2.6	3.6	3	3.3
Daughter Product: vinyl chloride (ug/L)	32	32	27	31	37	28	49	39	64	38
Dissolved Gases: ethene (ug/L)	ND	ND	ND	0.72 J	5.1 J	1.9 J	ND	ND	7.5	3.2 J
Dissolved Gases: ethane (ug/L)	6.8	7.7	6.8	4.1	12	9.7	ND	10	11	8.5
Dissolved Gases: methane (>500 ug/L)	250	270	270	180	260	190	310	240	340	220

Notes:

*Reference: Wiedemeier, et al., 1998, Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater.
MNA groundwater results shown are from Phase III LTM conducted quarterly 2016-2017; the 2018 first semi-annual (SA) LTM conducted June 2018; the 2018 second SA LTM conducted October 2018; the 2019 first SA LTM conducted April 2019 and the second SA LTM conducted September 2019; the 2020 first SA LTM conducted in April and the second SA LTM conducted in September.

1,1 DCE = 1,1 dichloroethylene

cis-1,2 DCE = cis-1,2-dichloroethylene

DO = Dissolved Oxygen

J = analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit

LTM = Long Term Monitoring

MNA = Monitored Natural Attenuation

mg/L = milligrams per liter

mV = millivolt

ND = non-detect

NS = not sampled

SA = Semi-annual

S.U.= standard units

trans-1,2 DCE = trans-1,2-dichloroethylene

ug/L = micrograms per liter

Red = does not meet favorable conditions

Green = meets favorable conditions

TABLE 5
LTM GROUNDWATER MNA RESULTS
COLLIS, Inc.
CLINTON, IA

Favorable Conditions*	MW-53									
	Phase III Quarterly LTM				Semi-annual LTM					
	Q3 2016	Q4 2016	Q1 2017	Q2 2017	SA 1 2018	SA 2 2018	SA 1 2019	SA 2 2019	SA 1 2020	SA 2 2020
DO (<0.5 mg/L)	0.27	0.4	0.29	0.6	0.22	0.07	3.71	0.21	0.21	0.06
ORP (<50 mV good; <-100 mV better)	-96.1	-75.5	-85.8	-40.2	-18.4	-73	-46.1	-59.2	-1.6	-70.2
pH (5-9 S.U.)	7.35	7.35	7.29	7.55	7.35	8.11	7.06	7.36	7.2	7.02
Sulfate (<20,000 ug/L)	41,000	42,000	41,000	40,000	37,000	35,000	35,000	35,000	34,000	31,000
Iron (>1,000 ug/L)	490	430	1,400	620	320	96	180	510	240	7.6 J
Nitrate/Nitrite (<1,000 ug/L)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Daughter Product: cis-1,2 DCE (ug/L)	17	6.7	7	7.6	9.5	12	12	11	13	11
Daughter Product: trans-1,2 DCE (ug/L)	ND	ND	0.36 J	ND	ND	0.67 J	0.59 J	0.59 J	0.60 J	.58 J
Daughter Product: 1,1 DCE (ug/L)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Daughter Product: vinyl chloride (ug/L)	ND	ND	0.7 J	ND	0.85 J	1.2	1.2	ND	1.4	1.7
Dissolved Gases: ethene (ug/L)	ND	ND	ND	ND	ND	0.71 J	ND	ND	ND	ND
Dissolved Gases: ethane (ug/L)	ND	ND	ND	ND	ND	1.7 J	ND	ND	ND	ND
Dissolved Gases: methane (>500 ug/L)	31	10	18	11	13	19	21	14	21	9.1

Notes:

*Reference: Wiedemeier, et al., 1998, Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater.
MNA groundwater results shown are from Phase III LTM conducted quarterly 2016-2017; the 2018 first semi-annual (SA) LTM conducted June 2018; the 2018 second SA LTM conducted October 2018; the 2019 first SA LTM conducted April 2019 and the second SA LTM conducted September 2019; the 2020 first SA LTM conducted in April and the second SA LTM conducted in September.

1,1 DCE = 1,1 dichloroethylene

cis-1,2 DCE = cis-1,2-dichloroethylene

DO = Dissolved Oxygen

J = analyte is present at an estimated concentration between the Method Detection

Limit and Reporting Limit

LTM = Long Term Monitoring

MNA = Monitored Natural Attenuation

mg/L = milligrams per liter

mV = millivolt

ND = non-detect

NS = not sampled

SA = Semi-annual

S.U.= standard units

trans-1,2 DCE = trans-1,2-dichloroethylene

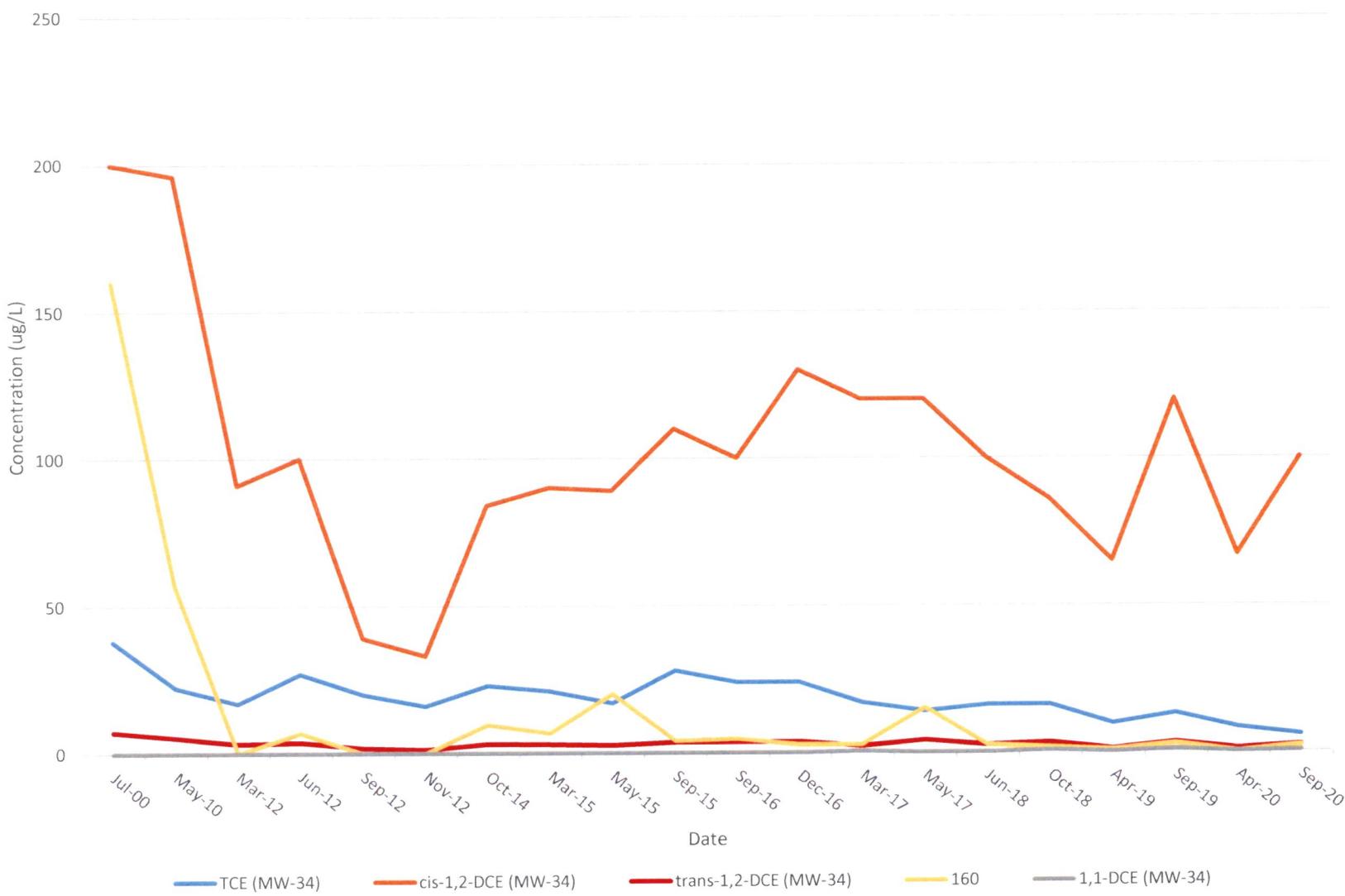
ug/L = micrograms per liter

Red = does not meet favorable conditions

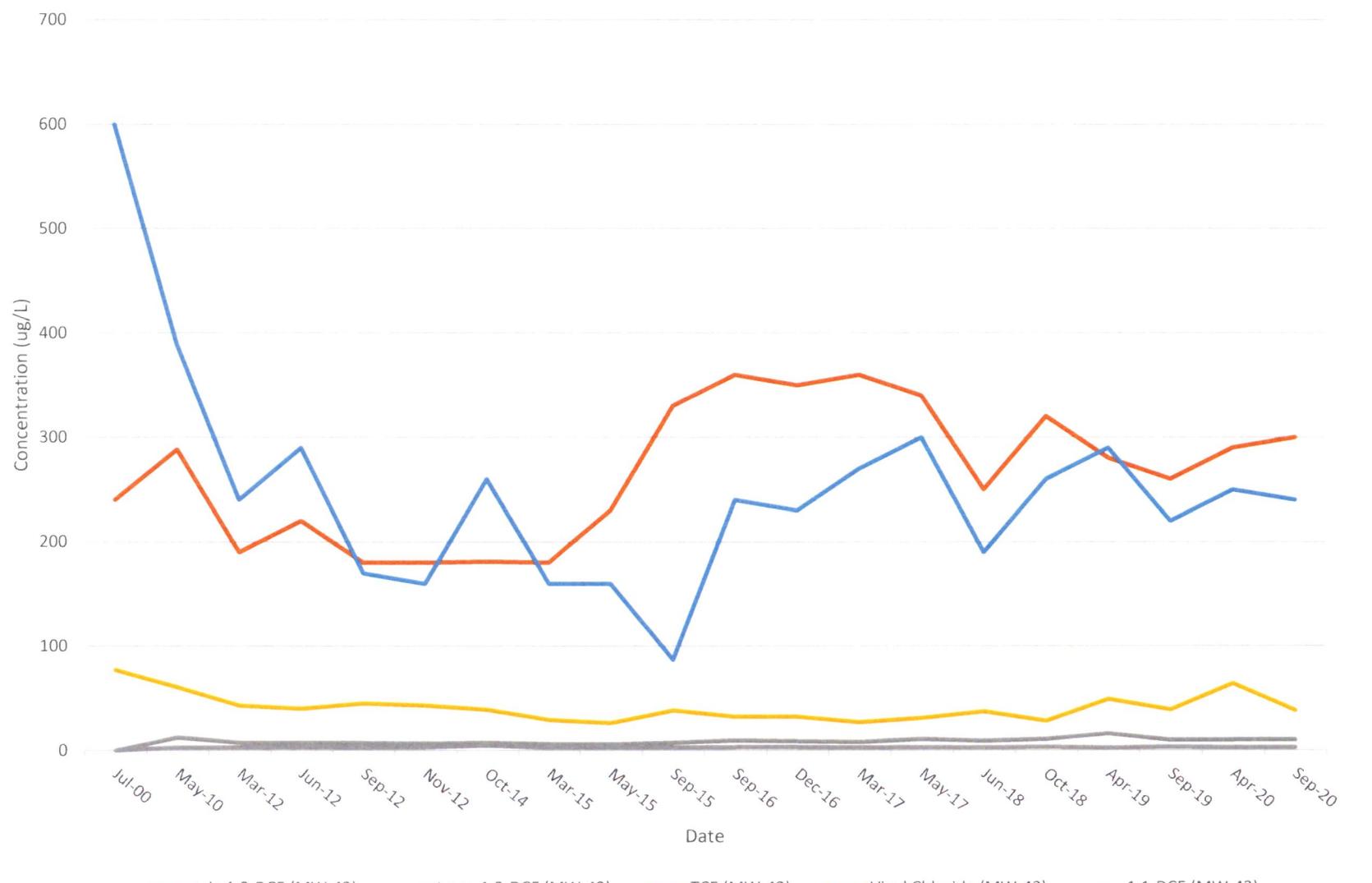
Green = meets favorable conditions

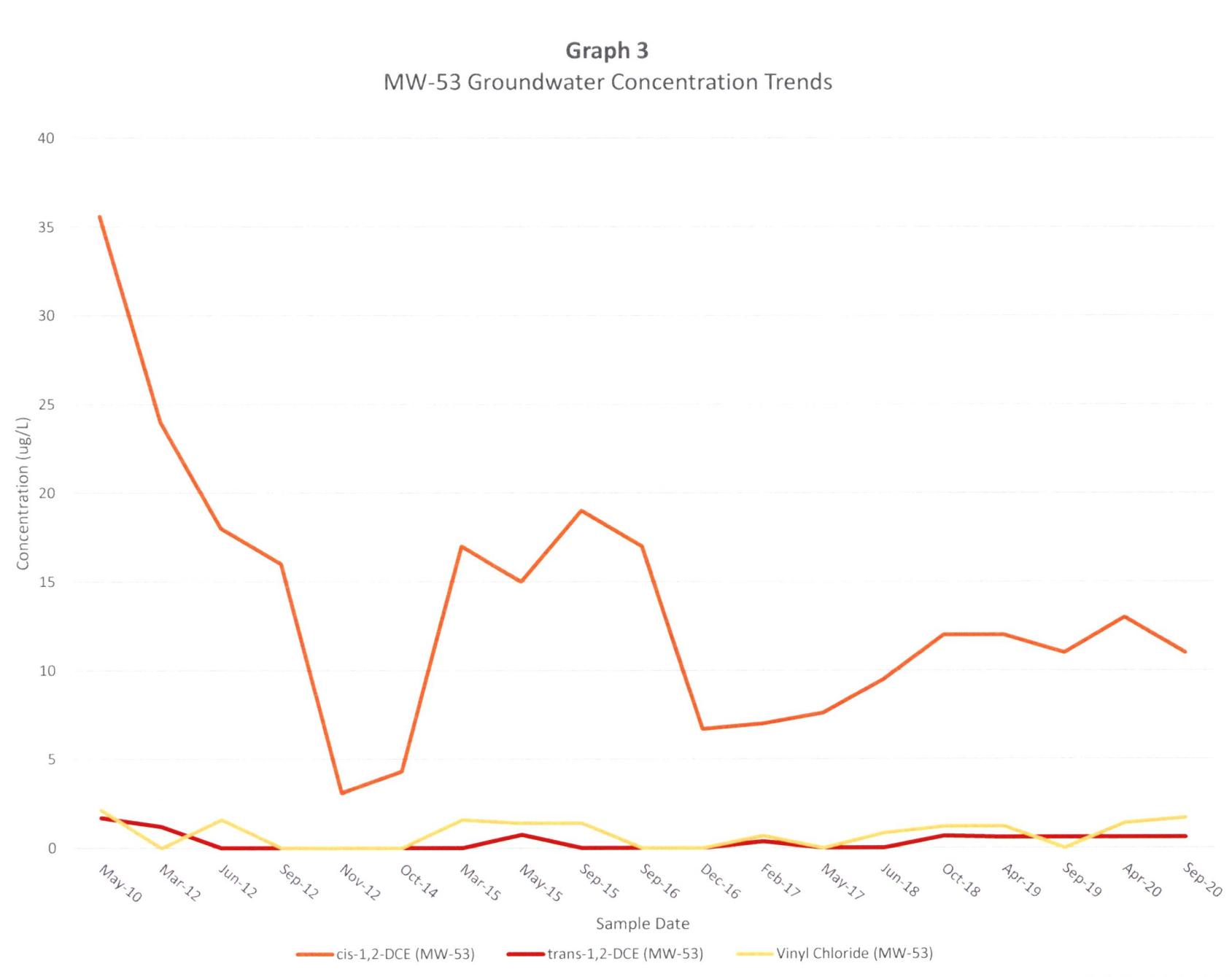
GRAPHS

Graph 1
MW-34 Groundwater Concentration Trends



Graph 2
MW-42 Groundwater Concentration Trends





ATTACHMENT A

LABORATORY ANALYTICAL DATA



30-Sep-2020

Kacie Van Buskirk
BB&E, Inc.
235 East Main Street
Suite 107
Northville, MI 48167

Re: **SSW Collis 2020 LTM Task 3**

Work Order: **20091397**

Dear Kacie,

ALS Environmental received 18 samples on 17-Sep-2020 10:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental - Holland and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 97.

If you have any questions regarding this report, please feel free to contact me:

ADDRESS: 3352 128th Avenue, Holland, MI, USA
PHONE: +1 (616) 399-6070 FAX: +1 (616) 399-6185

Sincerely,

A handwritten signature in black ink, appearing to read "Chad Whelton".

Electronically approved by: Chad Whelton

Chad Whelton
Project Manager

Report of Laboratory Analysis

Certificate No: IA: 403

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Work Order: 20091397

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
20091397-01	COL-GW-01	Groundwater		9/14/2020 14:55	9/17/2020 10:30	<input type="checkbox"/>
20091397-02	COL-GW-02	Groundwater		9/14/2020 15:20	9/17/2020 10:30	<input type="checkbox"/>
20091397-03	COL-GW-03	Groundwater		9/14/2020 16:05	9/17/2020 10:30	<input type="checkbox"/>
20091397-04	COL-GW-04	Groundwater		9/14/2020 16:45	9/17/2020 10:30	<input type="checkbox"/>
20091397-05	COL-GW-05	Groundwater		9/14/2020 16:45	9/17/2020 10:30	<input type="checkbox"/>
20091397-06	COL-GW-07	Groundwater		9/15/2020 07:50	9/17/2020 10:30	<input type="checkbox"/>
20091397-07	COL-GW-08	Groundwater		9/15/2020 08:50	9/17/2020 10:30	<input type="checkbox"/>
20091397-08	COL-GW-09	Groundwater		9/15/2020 09:50	9/17/2020 10:30	<input type="checkbox"/>
20091397-09	COL-GW-10	Groundwater		9/15/2020 10:55	9/17/2020 10:30	<input type="checkbox"/>
20091397-10	COL-GW-11	Groundwater		9/15/2020 11:40	9/17/2020 10:30	<input type="checkbox"/>
20091397-11	COL-GW-12	Groundwater		9/15/2020 12:20	9/17/2020 10:30	<input type="checkbox"/>
20091397-12	COL-GW-13	Groundwater		9/15/2020 13:00	9/17/2020 10:30	<input type="checkbox"/>
20091397-13	COL-GW-14	Groundwater		9/15/2020 13:45	9/17/2020 10:30	<input type="checkbox"/>
20091397-14	COL-GW-15	Groundwater		9/15/2020 13:45	9/17/2020 10:30	<input type="checkbox"/>
20091397-15	EB	Groundwater		9/15/2020 13:45	9/17/2020 10:30	<input type="checkbox"/>
20091397-16	Trip Blank #1	Water		9/15/2020	9/17/2020 10:30	<input type="checkbox"/>
20091397-17	Trip Blank #2	Water		9/15/2020	9/17/2020 10:30	<input type="checkbox"/>
20091397-18	COL-GW-06	Groundwater		9/14/2020 17:50	9/17/2020 10:30	<input type="checkbox"/>

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Work Order: 20091397

Case Narrative

Samples for the above noted Work Order were received on 09/17/2020. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Batch R299083, Method SW8260C, Sample VLCSW1-200928: The LCS recovery was above the upper control limit for Iodomethane. All the sample results in the batch were non-detect. No qualification is required.

Batch R299007a, Method SW8260C, Sample 20091397-04A MS: The MS recovery was outside of the control limit for Hexachlorobutadiene. However, the MSD recovery and the RPD between the MS and MSD was in control. No qualification is required.

Batch R299043A, Method SW8260C, Sample 20091397-05A MS: The MS recoveries were outside of the control limits for Trichloroethene and cis-1,2-Dichloroethene. However, the MSD recoveries and the RPDs between the MS and MSD were in control. No qualification is required.

Batch R299018A, Method SW8260C, Sample 20091397-04A MS: The MS recoveries were outside of the control limits for 1,1,2,2-Tetrachloroethane and 1,2,3-Trichloropropane. However, the MSD recoveries and the RPDs between the MS and MSD were in control. No qualification is required.

Batch R299018A, Method SW8260C, Sample 20091397-04A MS/MSD: The MS/MSD recovery was below the lower control limit for trans-1,4-Dichloro-2-butene. The corresponding result in the parent sample may be biased low for this analyte.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Work Order: 20091397

Case Narrative

Batch R299018A, Method SW8260C, Sample 20091397-04A MS/MSD: The MS/MSD recovery was above the upper control limit for Dichlorodifluoromethane. The corresponding result in the parent sample was non-detect, therefore no qualification is required.

Batch R299018A, Method SW8260C, Sample 20091397-04A MS/MSD: The MS/MSD recoveries were outside of the control limits for Trichloroethene and cis-1,2-Dichloroethene; however, the results in the parent sample are greater than 4x the spike amount. No qualification is required.

Batch R299018A, Method SW8260C, Sample 20091397-04A MSD: The RPD between the MS and MSD was outside the control limit for Acetone. The corresponding result in the parent sample should be considered estimated.

Batch R299018A, Method SW8260C, Sample VLCSW1-200928: The LCS recovery was above the upper control limit for Dichlorodifluoromethane. All the sample results in the batch were non-detect. No qualification is required.

Batch R298676, Method RSK-175, Sample 20091397-04D MS/MSD: The MS/MSD recovery was outside of the control limit for Methane; however, the result in the parent sample is greater than 4x the spike amount. No qualification is required.

Metals:

No other deviations or anomalies were noted.

Wet Chemistry:

No other deviations or anomalies were noted.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
WorkOrder: 20091397

**QUALIFIERS,
ACRONYMS, UNITS**

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
**	Estimated Value
a	Analyte is non-accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
Hr	BOD/CBOD - Sample was reset outside Hold Time, value should be considered estimated.
J	Analyte is present at an estimated concentration between the MDL and Report Limit
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-01
Collection Date: 9/14/2020 02:55 PM

Work Order: 20091397
Lab ID: 20091397-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: BG
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/26/2020 06:41
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 06:41
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/26/2020 06:41
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 06:41
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/26/2020 06:41
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 06:41
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/26/2020 06:41
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/26/2020 06:41
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/26/2020 06:41
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 06:41
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/26/2020 06:41
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/26/2020 06:41
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/26/2020 06:41
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/26/2020 06:41
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/26/2020 06:41
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 06:41
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/26/2020 06:41
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/26/2020 06:41
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/26/2020 06:41
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/26/2020 06:41
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 06:41
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/26/2020 06:41
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/26/2020 06:41
2-Butanone	U		0.52	5.0	µg/L	1	9/26/2020 06:41
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/26/2020 06:41
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/26/2020 06:41
2-Hexanone	U		0.59	5.0	µg/L	1	9/26/2020 06:41
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/26/2020 06:41
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/26/2020 06:41
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/26/2020 06:41
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/26/2020 06:41
Acetone	U		6.2	10	µg/L	1	9/26/2020 06:41
Acrolein	U		0.38	1.0	µg/L	1	9/26/2020 06:41
Acrylonitrile	U		0.50	1.0	µg/L	1	9/26/2020 06:41
Benzene	U		0.46	1.0	µg/L	1	9/26/2020 06:41
Benzyl chloride	U		0.34	1.0	µg/L	1	9/26/2020 06:41
Bromobenzene	U		0.38	1.0	µg/L	1	9/26/2020 06:41
Bromochloromethane	U		0.45	1.0	µg/L	1	9/26/2020 06:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-01
Collection Date: 9/14/2020 02:55 PM

Work Order: 20091397
Lab ID: 20091397-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/26/2020 06:41
Bromoform	U		0.56	1.0	µg/L	1	9/26/2020 06:41
Bromomethane	U		0.90	1.0	µg/L	1	9/26/2020 06:41
Carbon disulfide	U		0.49	1.0	µg/L	1	9/26/2020 06:41
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/26/2020 06:41
Chlorobenzene	U		0.40	1.0	µg/L	1	9/26/2020 06:41
Chloroethane	U		0.68	1.0	µg/L	1	9/26/2020 06:41
Chloroform	U		0.46	1.0	µg/L	1	9/26/2020 06:41
Chloromethane	U		0.83	1.0	µg/L	1	9/26/2020 06:41
cis-1,2-Dichloroethene	U		0.42	1.0	µg/L	1	9/26/2020 06:41
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/26/2020 06:41
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/26/2020 06:41
Dibromomethane	U		0.65	1.0	µg/L	1	9/26/2020 06:41
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/26/2020 06:41
Ethylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 06:41
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/26/2020 06:41
Hexachloroethane	U		0.45	1.0	µg/L	1	9/26/2020 06:41
Hexane	U		0.40	1.0	µg/L	1	9/26/2020 06:41
Iodomethane	U		2.0	5.0	µg/L	1	9/26/2020 06:41
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/26/2020 06:41
m,p-Xylene	U		0.81	2.0	µg/L	1	9/26/2020 06:41
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/26/2020 06:41
Methylene chloride	U		0.86	5.0	µg/L	1	9/26/2020 06:41
Naphthalene	U		0.77	5.0	µg/L	1	9/26/2020 06:41
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 06:41
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/26/2020 06:41
o-Xylene	U		0.31	1.0	µg/L	1	9/26/2020 06:41
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/26/2020 06:41
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/26/2020 06:41
Styrene	U		0.33	1.0	µg/L	1	9/26/2020 06:41
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/26/2020 06:41
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/26/2020 06:41
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/26/2020 06:41
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/26/2020 06:41
Toluene	U		0.45	1.0	µg/L	1	9/26/2020 06:41
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/26/2020 06:41
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/26/2020 06:41
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/26/2020 06:41
Trichloroethene	U		0.43	1.0	µg/L	1	9/26/2020 06:41
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/26/2020 06:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-01
Collection Date: 9/14/2020 02:55 PM

Work Order: 20091397
Lab ID: 20091397-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/26/2020 06:41
Vinyl chloride	U		0.53	1.0	µg/L	1	9/26/2020 06:41
<i>Surr:</i> 1,2-Dichloroethane-d4	95.3			75-120	%REC	1	9/26/2020 06:41
<i>Surr:</i> 4-Bromofluorobenzene	99.6			80-110	%REC	1	9/26/2020 06:41
<i>Surr:</i> Dibromofluoromethane	96.2			85-115	%REC	1	9/26/2020 06:41
<i>Surr:</i> Toluene-d8	98.8			85-110	%REC	1	9/26/2020 06:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-02
Collection Date: 9/14/2020 03:20 PM

Work Order: 20091397
Lab ID: 20091397-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: BG
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/26/2020 07:03
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 07:03
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/26/2020 07:03
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 07:03
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/26/2020 07:03
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 07:03
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/26/2020 07:03
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/26/2020 07:03
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/26/2020 07:03
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 07:03
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/26/2020 07:03
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/26/2020 07:03
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/26/2020 07:03
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/26/2020 07:03
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/26/2020 07:03
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 07:03
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/26/2020 07:03
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/26/2020 07:03
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/26/2020 07:03
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/26/2020 07:03
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 07:03
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/26/2020 07:03
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/26/2020 07:03
2-Butanone	U		0.52	5.0	µg/L	1	9/26/2020 07:03
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/26/2020 07:03
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/26/2020 07:03
2-Hexanone	U		0.59	5.0	µg/L	1	9/26/2020 07:03
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/26/2020 07:03
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/26/2020 07:03
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/26/2020 07:03
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/26/2020 07:03
Acetone	U		6.2	10	µg/L	1	9/26/2020 07:03
Acrolein	U		0.38	1.0	µg/L	1	9/26/2020 07:03
Acrylonitrile	U		0.50	1.0	µg/L	1	9/26/2020 07:03
Benzene	U		0.46	1.0	µg/L	1	9/26/2020 07:03
Benzyl chloride	U		0.34	1.0	µg/L	1	9/26/2020 07:03
Bromobenzene	U		0.38	1.0	µg/L	1	9/26/2020 07:03
Bromochloromethane	U		0.45	1.0	µg/L	1	9/26/2020 07:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-02
Collection Date: 9/14/2020 03:20 PM

Work Order: 20091397
Lab ID: 20091397-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/26/2020 07:03
Bromoform	U		0.56	1.0	µg/L	1	9/26/2020 07:03
Bromomethane	U		0.90	1.0	µg/L	1	9/26/2020 07:03
Carbon disulfide	U		0.49	1.0	µg/L	1	9/26/2020 07:03
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/26/2020 07:03
Chlorobenzene	U		0.40	1.0	µg/L	1	9/26/2020 07:03
Chloroethane	U		0.68	1.0	µg/L	1	9/26/2020 07:03
Chloroform	U		0.46	1.0	µg/L	1	9/26/2020 07:03
Chloromethane	U		0.83	1.0	µg/L	1	9/26/2020 07:03
cis-1,2-Dichloroethene	U		0.42	1.0	µg/L	1	9/26/2020 07:03
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/26/2020 07:03
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/26/2020 07:03
Dibromomethane	U		0.65	1.0	µg/L	1	9/26/2020 07:03
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/26/2020 07:03
Ethylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 07:03
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/26/2020 07:03
Hexachloroethane	U		0.45	1.0	µg/L	1	9/26/2020 07:03
Hexane	U		0.40	1.0	µg/L	1	9/26/2020 07:03
Iodomethane	U		2.0	5.0	µg/L	1	9/26/2020 07:03
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/26/2020 07:03
m,p-Xylene	U		0.81	2.0	µg/L	1	9/26/2020 07:03
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/26/2020 07:03
Methylene chloride	U		0.86	5.0	µg/L	1	9/26/2020 07:03
Naphthalene	U		0.77	5.0	µg/L	1	9/26/2020 07:03
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 07:03
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/26/2020 07:03
o-Xylene	U		0.31	1.0	µg/L	1	9/26/2020 07:03
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/26/2020 07:03
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/26/2020 07:03
Styrene	U		0.33	1.0	µg/L	1	9/26/2020 07:03
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/26/2020 07:03
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/26/2020 07:03
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/26/2020 07:03
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/26/2020 07:03
Toluene	U		0.45	1.0	µg/L	1	9/26/2020 07:03
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/26/2020 07:03
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/26/2020 07:03
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/26/2020 07:03
Trichloroethene	U		0.43	1.0	µg/L	1	9/26/2020 07:03
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/26/2020 07:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-02
Collection Date: 9/14/2020 03:20 PM

Work Order: 20091397
Lab ID: 20091397-02
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/26/2020 07:03
Vinyl chloride	U		0.53	1.0	µg/L	1	9/26/2020 07:03
<i>Surr: 1,2-Dichloroethane-d4</i>	94.9			75-120	%REC	1	9/26/2020 07:03
<i>Surr: 4-Bromofluorobenzene</i>	96.0			80-110	%REC	1	9/26/2020 07:03
<i>Surr: Dibromofluoromethane</i>	101			85-115	%REC	1	9/26/2020 07:03
<i>Surr: Toluene-d8</i>	99.2			85-110	%REC	1	9/26/2020 07:03

Note: See Qualifiers page for a list of qualifiers and their definitions.

Date: 30-Sep-20

ALS Group, USA

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-03
Collection Date: 9/14/2020 04:05 PM

Work Order: 20091397
Lab ID: 20091397-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
			Method: SW8260C				Analyst: BG
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/26/2020 07:25
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 07:25
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/26/2020 07:25
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 07:25
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/26/2020 07:25
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 07:25
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/26/2020 07:25
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/26/2020 07:25
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/26/2020 07:25
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 07:25
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/26/2020 07:25
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/26/2020 07:25
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/26/2020 07:25
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/26/2020 07:25
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/26/2020 07:25
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 07:25
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/26/2020 07:25
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/26/2020 07:25
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/26/2020 07:25
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/26/2020 07:25
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 07:25
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/26/2020 07:25
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/26/2020 07:25
2-Butanone	U		0.52	5.0	µg/L	1	9/26/2020 07:25
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/26/2020 07:25
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/26/2020 07:25
2-Hexanone	U		0.59	5.0	µg/L	1	9/26/2020 07:25
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/26/2020 07:25
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/26/2020 07:25
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/26/2020 07:25
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/26/2020 07:25
Acetone	U		6.2	10	µg/L	1	9/26/2020 07:25
Acrolein	U		0.38	1.0	µg/L	1	9/26/2020 07:25
Acrylonitrile	U		0.50	1.0	µg/L	1	9/26/2020 07:25
Benzene	U		0.46	1.0	µg/L	1	9/26/2020 07:25
Benzyl chloride	U		0.34	1.0	µg/L	1	9/26/2020 07:25
Bromobenzene	U		0.38	1.0	µg/L	1	9/26/2020 07:25
Bromochloromethane	U		0.45	1.0	µg/L	1	9/26/2020 07:25

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-03
Collection Date: 9/14/2020 04:05 PM

Work Order: 20091397
Lab ID: 20091397-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/26/2020 07:25
Bromoform	U		0.56	1.0	µg/L	1	9/26/2020 07:25
Bromomethane	U		0.90	1.0	µg/L	1	9/26/2020 07:25
Carbon disulfide	U		0.49	1.0	µg/L	1	9/26/2020 07:25
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/26/2020 07:25
Chlorobenzene	U		0.40	1.0	µg/L	1	9/26/2020 07:25
Chloroethane	U		0.68	1.0	µg/L	1	9/26/2020 07:25
Chloroform	U		0.46	1.0	µg/L	1	9/26/2020 07:25
Chloromethane	U		0.83	1.0	µg/L	1	9/26/2020 07:25
cis-1,2-Dichloroethene	U		0.42	1.0	µg/L	1	9/26/2020 07:25
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/26/2020 07:25
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/26/2020 07:25
Dibromomethane	U		0.65	1.0	µg/L	1	9/26/2020 07:25
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/26/2020 07:25
Ethylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 07:25
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/26/2020 07:25
Hexachloroethane	U		0.45	1.0	µg/L	1	9/26/2020 07:25
Hexane	U		0.40	1.0	µg/L	1	9/26/2020 07:25
Iodomethane	U		2.0	5.0	µg/L	1	9/26/2020 07:25
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/26/2020 07:25
m,p-Xylene	U		0.81	2.0	µg/L	1	9/26/2020 07:25
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/26/2020 07:25
Methylene chloride	U		0.86	5.0	µg/L	1	9/26/2020 07:25
Naphthalene	U		0.77	5.0	µg/L	1	9/26/2020 07:25
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 07:25
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/26/2020 07:25
o-Xylene	U		0.31	1.0	µg/L	1	9/26/2020 07:25
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/26/2020 07:25
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/26/2020 07:25
Styrene	U		0.33	1.0	µg/L	1	9/26/2020 07:25
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/26/2020 07:25
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/26/2020 07:25
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/26/2020 07:25
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/26/2020 07:25
Toluene	U		0.45	1.0	µg/L	1	9/26/2020 07:25
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/26/2020 07:25
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/26/2020 07:25
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/26/2020 07:25
Trichloroethene	U		0.43	1.0	µg/L	1	9/26/2020 07:25
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/26/2020 07:25

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-03
Collection Date: 9/14/2020 04:05 PM

Work Order: 20091397
Lab ID: 20091397-03
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/26/2020 07:25
Vinyl chloride	U		0.53	1.0	µg/L	1	9/26/2020 07:25
<i>Surr: 1,2-Dichloroethane-d4</i>	103			75-120	%REC	1	9/26/2020 07:25
<i>Surr: 4-Bromofluorobenzene</i>	96.4			80-110	%REC	1	9/26/2020 07:25
<i>Surr: Dibromofluoromethane</i>	99.1			85-115	%REC	1	9/26/2020 07:25
<i>Surr: Toluene-d8</i>	94.6			85-110	%REC	1	9/26/2020 07:25

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA
Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-04
Collection Date: 9/14/2020 04:45 PM

Work Order: 20091397
Lab ID: 20091397-04
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
GASES IN WATER							
Ethane	11		1.5	5.0	µg/L	1	9/22/2020 14:58
Ethene	3.3	J	1.7	5.0	µg/L	1	9/22/2020 14:58
Methane	200		3.9	10	µg/L	2	9/22/2020 15:25
METALS BY ICP-MS (DISSOLVED)							
Iron	U		0.050	0.080	mg/L	1	9/28/2020 16:22
Manganese	0.32		0.0025	0.0050	mg/L	1	9/28/2020 16:22
1,4-DIOXANE BY SELECT ION MONITORING							
1,4-Dioxane	U		0.44	0.60	µg/L	1	9/27/2020 09:40
Surr: Toluene-d8	89.7			74-124	%REC	1	9/27/2020 09:40
VOLATILE ORGANIC COMPOUNDS							
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/27/2020 16:29
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 16:29
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/27/2020 16:29
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 16:29
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/27/2020 16:29
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 16:29
1,1-Dichloroethene	2.9		0.40	1.0	µg/L	1	9/27/2020 16:29
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/27/2020 16:29
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/27/2020 16:29
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 16:29
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/27/2020 16:29
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/27/2020 16:29
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/27/2020 16:29
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/27/2020 16:29
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/27/2020 16:29
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 16:29
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/27/2020 16:29
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/27/2020 16:29
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/27/2020 16:29
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/27/2020 16:29
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 16:29
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/27/2020 16:29
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/27/2020 16:29
2-Butanone	U		0.52	5.0	µg/L	1	9/27/2020 16:29
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/27/2020 16:29
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/27/2020 16:29
2-Hexanone	U		0.59	5.0	µg/L	1	9/27/2020 16:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
 Project: SSW Collis 2020 LTM Task 3
 Sample ID: COL-GW-04
 Collection Date: 9/14/2020 04:45 PM

Work Order: 20091397
 Lab ID: 20091397-04
 Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/27/2020 16:29
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/27/2020 16:29
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/27/2020 16:29
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/27/2020 16:29
Acetone	U		6.2	10	µg/L	1	9/27/2020 16:29
Acrolein	U		0.38	1.0	µg/L	1	9/27/2020 16:29
Acrylonitrile	U		0.50	1.0	µg/L	1	9/27/2020 16:29
Benzene	U		0.46	1.0	µg/L	1	9/27/2020 16:29
Benzyl chloride	U		0.34	1.0	µg/L	1	9/27/2020 16:29
Bromobenzene	U		0.38	1.0	µg/L	1	9/27/2020 16:29
Bromochloromethane	U		0.45	1.0	µg/L	1	9/27/2020 16:29
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/27/2020 16:29
Bromoform	U		0.56	1.0	µg/L	1	9/27/2020 16:29
Bromomethane	U		0.90	1.0	µg/L	1	9/27/2020 16:29
Carbon disulfide	U		0.49	1.0	µg/L	1	9/27/2020 16:29
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/27/2020 16:29
Chlorobenzene	U		0.40	1.0	µg/L	1	9/27/2020 16:29
Chloroethane	U		0.68	1.0	µg/L	1	9/27/2020 16:29
Chloroform	U		0.46	1.0	µg/L	1	9/27/2020 16:29
Chloromethane	U		0.83	1.0	µg/L	1	9/27/2020 16:29
cis-1,2-Dichloroethene	270		2.1	5.0	µg/L	5	9/26/2020 07:47
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/27/2020 16:29
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/27/2020 16:29
Dibromomethane	U		0.65	1.0	µg/L	1	9/27/2020 16:29
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/27/2020 16:29
Ethylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 16:29
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/27/2020 16:29
Hexachloroethane	U		0.45	1.0	µg/L	1	9/27/2020 16:29
Hexane	U		0.40	1.0	µg/L	1	9/27/2020 16:29
Iodomethane	U		2.0	5.0	µg/L	1	9/27/2020 16:29
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/27/2020 16:29
m,p-Xylene	U		0.81	2.0	µg/L	1	9/27/2020 16:29
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/27/2020 16:29
Methylene chloride	U		0.86	5.0	µg/L	1	9/27/2020 16:29
Naphthalene	U		0.77	5.0	µg/L	1	9/27/2020 16:29
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 16:29
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/27/2020 16:29
o-Xylene	U		0.31	1.0	µg/L	1	9/27/2020 16:29
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/27/2020 16:29
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/27/2020 16:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA
Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-04
Collection Date: 9/14/2020 04:45 PM

Work Order: 20091397
Lab ID: 20091397-04
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.33	1.0	µg/L	1	9/27/2020 16:29
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/27/2020 16:29
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/27/2020 16:29
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/27/2020 16:29
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/27/2020 16:29
Toluene	U		0.45	1.0	µg/L	1	9/27/2020 16:29
trans-1,2-Dichloroethene	9.0		0.48	1.0	µg/L	1	9/27/2020 16:29
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/27/2020 16:29
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/27/2020 16:29
Trichloroethene	190		2.2	5.0	µg/L	5	9/26/2020 07:47
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/27/2020 16:29
Vinyl acetate	U		0.83	5.0	µg/L	1	9/27/2020 16:29
Vinyl chloride	32		0.53	1.0	µg/L	1	9/27/2020 16:29
<i>Surr: 1,2-Dichloroethane-d4</i>	105			75-120	%REC	5	9/26/2020 07:47
<i>Surr: 1,2-Dichloroethane-d4</i>	91.8			75-120	%REC	1	9/27/2020 16:29
<i>Surr: 4-Bromofluorobenzene</i>	97.5			80-110	%REC	5	9/26/2020 07:47
<i>Surr: 4-Bromofluorobenzene</i>	97.6			80-110	%REC	1	9/27/2020 16:29
<i>Surr: Dibromofluoromethane</i>	97.4			85-115	%REC	5	9/26/2020 07:47
<i>Surr: Dibromofluoromethane</i>	98.6			85-115	%REC	1	9/27/2020 16:29
<i>Surr: Toluene-d8</i>	103			85-110	%REC	5	9/26/2020 07:47
<i>Surr: Toluene-d8</i>	99.5			85-110	%REC	1	9/27/2020 16:29
ANIONS BY ION CHROMATOGRAPHY							
Method: SW9056A							
Chloride	71		6.2	20	mg/L	20	Analyst: JDR 9/22/2020 16:07
Sulfate	98		6.9	20	mg/L	20	9/22/2020 16:07
NITROGEN, NITRATE-NITRITE							
Method: E353.2 R2.0							
Nitrogen, Nitrate-Nitrite	U		0.012	0.020	mg/L	1	Analyst: CAC 9/18/2020 12:51
SULFIDE							
Method: SW9034							
Sulfide	U		0.42	1.0	mg/L	1	Analyst: ERW 9/21/2020 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-05
Collection Date: 9/14/2020 04:45 PM

Work Order: 20091397
Lab ID: 20091397-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
GASES IN WATER							
Ethane	8.5		1.5	5.0	µg/L	1	9/22/2020 14:52
Ethene	3.2	J	1.7	5.0	µg/L	1	9/22/2020 14:52
Methane	220		3.9	10	µg/L	2	9/22/2020 15:40
METALS BY ICP-MS (DISSOLVED)							
Iron	0.077	J	0.050	0.080	mg/L	1	9/28/2020 16:27
Manganese	0.28		0.0025	0.0050	mg/L	1	9/28/2020 16:27
1,4-DIOXANE BY SELECT ION MONITORING							
1,4-Dioxane	U		0.44	0.60	µg/L	1	9/27/2020 09:56
Surr: Toluene-d8	92.6			74-124	%REC	1	9/27/2020 09:56
VOLATILE ORGANIC COMPOUNDS							
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/27/2020 16:54
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 16:54
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/27/2020 16:54
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 16:54
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/27/2020 16:54
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 16:54
1,1-Dichloroethene	3.3		0.40	1.0	µg/L	1	9/27/2020 16:54
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/27/2020 16:54
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/27/2020 16:54
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 16:54
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/27/2020 16:54
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/27/2020 16:54
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/27/2020 16:54
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/27/2020 16:54
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/27/2020 16:54
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 16:54
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/27/2020 16:54
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/27/2020 16:54
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/27/2020 16:54
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/27/2020 16:54
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 16:54
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/27/2020 16:54
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/27/2020 16:54
2-Butanone	U		0.52	5.0	µg/L	1	9/27/2020 16:54
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/27/2020 16:54
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/27/2020 16:54
2-Hexanone	U		0.59	5.0	µg/L	1	9/27/2020 16:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-05
Collection Date: 9/14/2020 04:45 PM

Work Order: 20091397
Lab ID: 20091397-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/27/2020 16:54
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/27/2020 16:54
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/27/2020 16:54
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/27/2020 16:54
Acetone	U		6.2	10	µg/L	1	9/27/2020 16:54
Acrolein	U		0.38	1.0	µg/L	1	9/27/2020 16:54
Acrylonitrile	U		0.50	1.0	µg/L	1	9/27/2020 16:54
Benzene	U		0.46	1.0	µg/L	1	9/27/2020 16:54
Benzyl chloride	U		0.34	1.0	µg/L	1	9/27/2020 16:54
Bromobenzene	U		0.38	1.0	µg/L	1	9/27/2020 16:54
Bromochloromethane	U		0.45	1.0	µg/L	1	9/27/2020 16:54
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/27/2020 16:54
Bromoform	U		0.56	1.0	µg/L	1	9/27/2020 16:54
Bromomethane	U		0.90	1.0	µg/L	1	9/27/2020 16:54
Carbon disulfide	U		0.49	1.0	µg/L	1	9/27/2020 16:54
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/27/2020 16:54
Chlorobenzene	U		0.40	1.0	µg/L	1	9/27/2020 16:54
Chloroethane	U		0.68	1.0	µg/L	1	9/27/2020 16:54
Chloroform	U		0.46	1.0	µg/L	1	9/27/2020 16:54
Chloromethane	U		0.83	1.0	µg/L	1	9/27/2020 16:54
cis-1,2-Dichloroethene	300		2.1	5.0	µg/L	5	9/26/2020 16:37
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/27/2020 16:54
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/27/2020 16:54
Dibromomethane	U		0.65	1.0	µg/L	1	9/27/2020 16:54
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/27/2020 16:54
Ethylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 16:54
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/27/2020 16:54
Hexachloroethane	U		0.45	1.0	µg/L	1	9/27/2020 16:54
Hexane	U		0.40	1.0	µg/L	1	9/27/2020 16:54
Iodomethane	U		2.0	5.0	µg/L	1	9/27/2020 16:54
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/27/2020 16:54
m,p-Xylene	U		0.81	2.0	µg/L	1	9/27/2020 16:54
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/27/2020 16:54
Methylene chloride	U		0.86	5.0	µg/L	1	9/27/2020 16:54
Naphthalene	U		0.77	5.0	µg/L	1	9/27/2020 16:54
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 16:54
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/27/2020 16:54
o-Xylene	U		0.31	1.0	µg/L	1	9/27/2020 16:54
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/27/2020 16:54
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/27/2020 16:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-05
Collection Date: 9/14/2020 04:45 PM

Work Order: 20091397
Lab ID: 20091397-05
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.33	1.0	µg/L	1	9/27/2020 16:54
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/27/2020 16:54
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/27/2020 16:54
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/27/2020 16:54
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/27/2020 16:54
Toluene	U		0.45	1.0	µg/L	1	9/27/2020 16:54
trans-1,2-Dichloroethene	10		0.48	1.0	µg/L	1	9/27/2020 16:54
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/27/2020 16:54
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/27/2020 16:54
Trichloroethene	240		2.2	5.0	µg/L	5	9/26/2020 16:37
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/27/2020 16:54
Vinyl acetate	U		0.83	5.0	µg/L	1	9/27/2020 16:54
Vinyl chloride	38		0.53	1.0	µg/L	1	9/27/2020 16:54
Surr: 1,2-Dichloroethane-d4	95.6			75-120	%REC	5	9/26/2020 16:37
Surr: 1,2-Dichloroethane-d4	86.8			75-120	%REC	1	9/27/2020 16:54
Surr: 4-Bromofluorobenzene	95.3			80-110	%REC	5	9/26/2020 16:37
Surr: 4-Bromofluorobenzene	97.4			80-110	%REC	1	9/27/2020 16:54
Surr: Dibromofluoromethane	99.5			85-115	%REC	5	9/26/2020 16:37
Surr: Dibromofluoromethane	96.4			85-115	%REC	1	9/27/2020 16:54
Surr: Toluene-d8	99.3			85-110	%REC	5	9/26/2020 16:37
Surr: Toluene-d8	102			85-110	%REC	1	9/27/2020 16:54
ANIONS BY ION CHROMATOGRAPHY							
Chloride							
	64		3.1	10	mg/L	10	9/22/2020 17:05
Sulfate							
	95		3.4	10	mg/L	10	9/22/2020 17:05
NITROGEN, NITRATE-NITRITE							
Nitrogen, Nitrate-Nitrite							
	U		0.012	0.020	mg/L	1	9/18/2020 14:00
SULFIDE							
Sulfide							
	U		0.42	1.0	mg/L	1	9/21/2020 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-07
Collection Date: 9/15/2020 07:50 AM

Work Order: 20091397
Lab ID: 20091397-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,4-DIOXANE BY SELECT ION MONITORING							
1,4-Dioxane	U		0.44	0.60	µg/L	1	9/27/2020 10:12
Surrogate: Toluene-d8	97.8			74-124	%REC	1	9/27/2020 10:12
VOLATILE ORGANIC COMPOUNDS							
Method: SW8260B							
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/27/2020 14:29
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 14:29
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/27/2020 14:29
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 14:29
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/27/2020 14:29
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 14:29
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/27/2020 14:29
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/27/2020 14:29
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/27/2020 14:29
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 14:29
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/27/2020 14:29
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/27/2020 14:29
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/27/2020 14:29
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/27/2020 14:29
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/27/2020 14:29
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 14:29
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/27/2020 14:29
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/27/2020 14:29
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/27/2020 14:29
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/27/2020 14:29
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 14:29
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/27/2020 14:29
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/27/2020 14:29
2-Butanone	U		0.52	5.0	µg/L	1	9/27/2020 14:29
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/27/2020 14:29
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/27/2020 14:29
2-Hexanone	U		0.59	5.0	µg/L	1	9/27/2020 14:29
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/27/2020 14:29
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/27/2020 14:29
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/27/2020 14:29
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/27/2020 14:29
Acetone	U		6.2	10	µg/L	1	9/27/2020 14:29
Acrolein	U		0.38	1.0	µg/L	1	9/27/2020 14:29
Acrylonitrile	U		0.50	1.0	µg/L	1	9/27/2020 14:29
Benzene	U		0.46	1.0	µg/L	1	9/27/2020 14:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-07
Collection Date: 9/15/2020 07:50 AM

Work Order: 20091397
Lab ID: 20091397-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzyl chloride	U		0.34	1.0	µg/L	1	9/27/2020 14:29
Bromobenzene	U		0.38	1.0	µg/L	1	9/27/2020 14:29
Bromochloromethane	U		0.45	1.0	µg/L	1	9/27/2020 14:29
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/27/2020 14:29
Bromoform	U		0.56	1.0	µg/L	1	9/27/2020 14:29
Bromomethane	U		0.90	1.0	µg/L	1	9/27/2020 14:29
Carbon disulfide	U		0.49	1.0	µg/L	1	9/27/2020 14:29
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/27/2020 14:29
Chlorobenzene	U		0.40	1.0	µg/L	1	9/27/2020 14:29
Chloroethane	U		0.68	1.0	µg/L	1	9/27/2020 14:29
Chloroform	U		0.46	1.0	µg/L	1	9/27/2020 14:29
Chloromethane	U		0.83	1.0	µg/L	1	9/27/2020 14:29
cis-1,2-Dichloroethene	65		0.42	1.0	µg/L	1	9/27/2020 14:29
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/27/2020 14:29
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/27/2020 14:29
Dibromomethane	U		0.65	1.0	µg/L	1	9/27/2020 14:29
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/27/2020 14:29
Ethylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 14:29
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/27/2020 14:29
Hexachloroethane	U		0.45	1.0	µg/L	1	9/27/2020 14:29
Hexane	U		0.40	1.0	µg/L	1	9/27/2020 14:29
Iodomethane	U		2.0	5.0	µg/L	1	9/27/2020 14:29
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/27/2020 14:29
m,p-Xylene	U		0.81	2.0	µg/L	1	9/27/2020 14:29
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/27/2020 14:29
Methylene chloride	U		0.86	5.0	µg/L	1	9/27/2020 14:29
Naphthalene	U		0.77	5.0	µg/L	1	9/27/2020 14:29
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 14:29
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/27/2020 14:29
o-Xylene	U		0.31	1.0	µg/L	1	9/27/2020 14:29
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/27/2020 14:29
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/27/2020 14:29
Styrene	U		0.33	1.0	µg/L	1	9/27/2020 14:29
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/27/2020 14:29
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/27/2020 14:29
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/27/2020 14:29
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/27/2020 14:29
Toluene	0.54	J	0.45	1.0	µg/L	1	9/27/2020 14:29
trans-1,2-Dichloroethene	1.5		0.48	1.0	µg/L	1	9/27/2020 14:29
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/27/2020 14:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-07
Collection Date: 9/15/2020 07:50 AM

Work Order: 20091397
Lab ID: 20091397-06
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/27/2020 14:29
Trichloroethene	2.9		0.43	1.0	µg/L	1	9/27/2020 14:29
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/27/2020 14:29
Vinyl acetate	U		0.83	5.0	µg/L	1	9/27/2020 14:29
Vinyl chloride	1.5		0.53	1.0	µg/L	1	9/27/2020 14:29
<i>Surr: 1,2-Dichloroethane-d4</i>	97.6			75-120	%REC	1	9/27/2020 14:29
<i>Surr: 4-Bromofluorobenzene</i>	99.4			80-110	%REC	1	9/27/2020 14:29
<i>Surr: Dibromofluoromethane</i>	100			85-115	%REC	1	9/27/2020 14:29
<i>Surr: Toluene-d8</i>	101			85-110	%REC	1	9/27/2020 14:29

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-08
Collection Date: 9/15/2020 08:50 AM

Work Order: 20091397
Lab ID: 20091397-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
GASES IN WATER							
Ethane	U		1.5	5.0	µg/L	1	9/22/2020 13:57
Ethene	U		1.7	5.0	µg/L	1	9/22/2020 13:57
Methane	9.1		2.0	5.0	µg/L	1	9/22/2020 13:57
METALS BY ICP-MS (DISSOLVED)							
Iron	0.076	J	0.050	0.080	mg/L	1	9/28/2020 16:29
Manganese	0.044		0.0025	0.0050	mg/L	1	9/28/2020 16:29
1,4-DIOXANE BY SELECT ION MONITORING							
1,4-Dioxane	U		0.44	0.60	µg/L	1	9/27/2020 10:28
Surr: Toluene-d8	92.7			74-124	%REC	1	9/27/2020 10:28
VOLATILE ORGANIC COMPOUNDS							
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/27/2020 14:53
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 14:53
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/27/2020 14:53
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 14:53
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/27/2020 14:53
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 14:53
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/27/2020 14:53
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/27/2020 14:53
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/27/2020 14:53
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 14:53
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/27/2020 14:53
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/27/2020 14:53
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/27/2020 14:53
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/27/2020 14:53
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/27/2020 14:53
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 14:53
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/27/2020 14:53
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/27/2020 14:53
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/27/2020 14:53
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/27/2020 14:53
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 14:53
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/27/2020 14:53
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/27/2020 14:53
2-Butanone	U		0.52	5.0	µg/L	1	9/27/2020 14:53
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/27/2020 14:53
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/27/2020 14:53
2-Hexanone	U		0.59	5.0	µg/L	1	9/27/2020 14:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-08
Collection Date: 9/15/2020 08:50 AM

Work Order: 20091397
Lab ID: 20091397-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/27/2020 14:53
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/27/2020 14:53
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/27/2020 14:53
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/27/2020 14:53
Acetone	U		6.2	10	µg/L	1	9/27/2020 14:53
Acrolein	U		0.38	1.0	µg/L	1	9/27/2020 14:53
Acrylonitrile	U		0.50	1.0	µg/L	1	9/27/2020 14:53
Benzene	U		0.46	1.0	µg/L	1	9/27/2020 14:53
Benzyl chloride	U		0.34	1.0	µg/L	1	9/27/2020 14:53
Bromobenzene	U		0.38	1.0	µg/L	1	9/27/2020 14:53
Bromochloromethane	U		0.45	1.0	µg/L	1	9/27/2020 14:53
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/27/2020 14:53
Bromoform	U		0.56	1.0	µg/L	1	9/27/2020 14:53
Bromomethane	U		0.90	1.0	µg/L	1	9/27/2020 14:53
Carbon disulfide	U		0.49	1.0	µg/L	1	9/27/2020 14:53
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/27/2020 14:53
Chlorobenzene	U		0.40	1.0	µg/L	1	9/27/2020 14:53
Chloroethane	U		0.68	1.0	µg/L	1	9/27/2020 14:53
Chloroform	U		0.46	1.0	µg/L	1	9/27/2020 14:53
Chloromethane	U		0.83	1.0	µg/L	1	9/27/2020 14:53
cis-1,2-Dichloroethene	11		0.42	1.0	µg/L	1	9/27/2020 14:53
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/27/2020 14:53
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/27/2020 14:53
Dibromomethane	U		0.65	1.0	µg/L	1	9/27/2020 14:53
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/27/2020 14:53
Ethylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 14:53
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/27/2020 14:53
Hexachloroethane	U		0.45	1.0	µg/L	1	9/27/2020 14:53
Hexane	U		0.40	1.0	µg/L	1	9/27/2020 14:53
Iodomethane	U		2.0	5.0	µg/L	1	9/27/2020 14:53
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/27/2020 14:53
m,p-Xylene	U		0.81	2.0	µg/L	1	9/27/2020 14:53
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/27/2020 14:53
Methylene chloride	U		0.86	5.0	µg/L	1	9/27/2020 14:53
Naphthalene	U		0.77	5.0	µg/L	1	9/27/2020 14:53
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 14:53
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/27/2020 14:53
o-Xylene	U		0.31	1.0	µg/L	1	9/27/2020 14:53
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/27/2020 14:53
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/27/2020 14:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-08
Collection Date: 9/15/2020 08:50 AM

Work Order: 20091397
Lab ID: 20091397-07
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.33	1.0	µg/L	1	9/27/2020 14:53
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/27/2020 14:53
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/27/2020 14:53
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/27/2020 14:53
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/27/2020 14:53
Toluene	U		0.45	1.0	µg/L	1	9/27/2020 14:53
trans-1,2-Dichloroethene	0.58	J	0.48	1.0	µg/L	1	9/27/2020 14:53
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/27/2020 14:53
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/27/2020 14:53
Trichloroethene	U		0.43	1.0	µg/L	1	9/27/2020 14:53
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/27/2020 14:53
Vinyl acetate	U		0.83	5.0	µg/L	1	9/27/2020 14:53
Vinyl chloride	1.7		0.53	1.0	µg/L	1	9/27/2020 14:53
<i>Surr: 1,2-Dichloroethane-d4</i>	100			75-120	%REC	1	9/27/2020 14:53
<i>Surr: 4-Bromofluorobenzene</i>	100			80-110	%REC	1	9/27/2020 14:53
<i>Surr: Dibromofluoromethane</i>	100			85-115	%REC	1	9/27/2020 14:53
<i>Surr: Toluene-d8</i>	98.8			85-110	%REC	1	9/27/2020 14:53
ANIONS BY ION CHROMATOGRAPHY							
				Method: SW9056A			
Chloride	19		2.5	8.0	mg/L	8	9/22/2020 17:24
Sulfate	31		2.7	8.0	mg/L	8	9/22/2020 17:24
NITROGEN, NITRATE-NITRITE							
				Method: E353.2 R2.0			
Nitrogen, Nitrate-Nitrite	U		0.012	0.020	mg/L	1	9/18/2020 14:01
SULFIDE							
				Method: SW9034			
Sulfide	U		0.42	1.0	mg/L	1	9/21/2020 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-09
Collection Date: 9/15/2020 09:50 AM

Work Order: 20091397
Lab ID: 20091397-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: SJB
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/27/2020 15:17
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 15:17
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/27/2020 15:17
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 15:17
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/27/2020 15:17
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 15:17
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/27/2020 15:17
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/27/2020 15:17
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/27/2020 15:17
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 15:17
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/27/2020 15:17
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/27/2020 15:17
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/27/2020 15:17
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/27/2020 15:17
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/27/2020 15:17
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 15:17
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/27/2020 15:17
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/27/2020 15:17
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/27/2020 15:17
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/27/2020 15:17
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 15:17
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/27/2020 15:17
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/27/2020 15:17
2-Butanone	U		0.52	5.0	µg/L	1	9/27/2020 15:17
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/27/2020 15:17
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/27/2020 15:17
2-Hexanone	U		0.59	5.0	µg/L	1	9/27/2020 15:17
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/27/2020 15:17
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/27/2020 15:17
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/27/2020 15:17
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/27/2020 15:17
Acetone	U		6.2	10	µg/L	1	9/27/2020 15:17
Acrolein	U		0.38	1.0	µg/L	1	9/27/2020 15:17
Acrylonitrile	U		0.50	1.0	µg/L	1	9/27/2020 15:17
Benzene	U		0.46	1.0	µg/L	1	9/27/2020 15:17
Benzyl chloride	U		0.34	1.0	µg/L	1	9/27/2020 15:17
Bromobenzene	U		0.38	1.0	µg/L	1	9/27/2020 15:17
Bromochloromethane	U		0.45	1.0	µg/L	1	9/27/2020 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-09
Collection Date: 9/15/2020 09:50 AM

Work Order: 20091397
Lab ID: 20091397-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/27/2020 15:17
Bromoform	U		0.56	1.0	µg/L	1	9/27/2020 15:17
Bromomethane	U		0.90	1.0	µg/L	1	9/27/2020 15:17
Carbon disulfide	U		0.49	1.0	µg/L	1	9/27/2020 15:17
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/27/2020 15:17
Chlorobenzene	U		0.40	1.0	µg/L	1	9/27/2020 15:17
Chloroethane	U		0.68	1.0	µg/L	1	9/27/2020 15:17
Chloroform	U		0.46	1.0	µg/L	1	9/27/2020 15:17
Chloromethane	U		0.83	1.0	µg/L	1	9/27/2020 15:17
cis-1,2-Dichloroethene	U		0.42	1.0	µg/L	1	9/27/2020 15:17
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/27/2020 15:17
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/27/2020 15:17
Dibromomethane	U		0.65	1.0	µg/L	1	9/27/2020 15:17
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/27/2020 15:17
Ethylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 15:17
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/27/2020 15:17
Hexachloroethane	U		0.45	1.0	µg/L	1	9/27/2020 15:17
Hexane	U		0.40	1.0	µg/L	1	9/27/2020 15:17
Iodomethane	U		2.0	5.0	µg/L	1	9/27/2020 15:17
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/27/2020 15:17
m,p-Xylene	U		0.81	2.0	µg/L	1	9/27/2020 15:17
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/27/2020 15:17
Methylene chloride	U		0.86	5.0	µg/L	1	9/27/2020 15:17
Naphthalene	U		0.77	5.0	µg/L	1	9/27/2020 15:17
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 15:17
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/27/2020 15:17
o-Xylene	U		0.31	1.0	µg/L	1	9/27/2020 15:17
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/27/2020 15:17
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/27/2020 15:17
Styrene	U		0.33	1.0	µg/L	1	9/27/2020 15:17
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/27/2020 15:17
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/27/2020 15:17
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/27/2020 15:17
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/27/2020 15:17
Toluene	U		0.45	1.0	µg/L	1	9/27/2020 15:17
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/27/2020 15:17
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/27/2020 15:17
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/27/2020 15:17
Trichloroethene	U		0.43	1.0	µg/L	1	9/27/2020 15:17
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/27/2020 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-09
Collection Date: 9/15/2020 09:50 AM

Work Order: 20091397
Lab ID: 20091397-08
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/27/2020 15:17
Vinyl chloride	U		0.53	1.0	µg/L	1	9/27/2020 15:17
<i>Surr: 1,2-Dichloroethane-d4</i>	98.8			75-120	%REC	1	9/27/2020 15:17
<i>Surr: 4-Bromofluorobenzene</i>	100			80-110	%REC	1	9/27/2020 15:17
<i>Surr: Dibromofluoromethane</i>	101			85-115	%REC	1	9/27/2020 15:17
<i>Surr: Toluene-d8</i>	100			85-110	%REC	1	9/27/2020 15:17

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-10
Collection Date: 9/15/2020 10:55 AM

Work Order: 20091397
Lab ID: 20091397-09
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: SJB
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/27/2020 15:41
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 15:41
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/27/2020 15:41
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 15:41
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/27/2020 15:41
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 15:41
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/27/2020 15:41
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/27/2020 15:41
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/27/2020 15:41
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 15:41
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/27/2020 15:41
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/27/2020 15:41
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/27/2020 15:41
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/27/2020 15:41
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/27/2020 15:41
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 15:41
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/27/2020 15:41
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/27/2020 15:41
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/27/2020 15:41
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/27/2020 15:41
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 15:41
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/27/2020 15:41
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/27/2020 15:41
2-Butanone	U		0.52	5.0	µg/L	1	9/27/2020 15:41
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/27/2020 15:41
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/27/2020 15:41
2-Hexanone	U		0.59	5.0	µg/L	1	9/27/2020 15:41
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/27/2020 15:41
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/27/2020 15:41
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/27/2020 15:41
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/27/2020 15:41
Acetone	U		6.2	10	µg/L	1	9/27/2020 15:41
Acrolein	U		0.38	1.0	µg/L	1	9/27/2020 15:41
Acrylonitrile	U		0.50	1.0	µg/L	1	9/27/2020 15:41
Benzene	U		0.46	1.0	µg/L	1	9/27/2020 15:41
Benzyl chloride	U		0.34	1.0	µg/L	1	9/27/2020 15:41
Bromobenzene	U		0.38	1.0	µg/L	1	9/27/2020 15:41
Bromochloromethane	U		0.45	1.0	µg/L	1	9/27/2020 15:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-10
Collection Date: 9/15/2020 10:55 AM

Work Order: 20091397
Lab ID: 20091397-09
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/27/2020 15:41
Bromoform	U		0.56	1.0	µg/L	1	9/27/2020 15:41
Bromomethane	U		0.90	1.0	µg/L	1	9/27/2020 15:41
Carbon disulfide	U		0.49	1.0	µg/L	1	9/27/2020 15:41
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/27/2020 15:41
Chlorobenzene	U		0.40	1.0	µg/L	1	9/27/2020 15:41
Chloroethane	U		0.68	1.0	µg/L	1	9/27/2020 15:41
Chloroform	U		0.46	1.0	µg/L	1	9/27/2020 15:41
Chloromethane	U		0.83	1.0	µg/L	1	9/27/2020 15:41
cis-1,2-Dichloroethene	22	0.42		1.0	µg/L	1	9/27/2020 15:41
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/27/2020 15:41
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/27/2020 15:41
Dibromomethane	U		0.65	1.0	µg/L	1	9/27/2020 15:41
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/27/2020 15:41
Ethylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 15:41
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/27/2020 15:41
Hexachloroethane	U		0.45	1.0	µg/L	1	9/27/2020 15:41
Hexane	U		0.40	1.0	µg/L	1	9/27/2020 15:41
Iodomethane	U		2.0	5.0	µg/L	1	9/27/2020 15:41
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/27/2020 15:41
m,p-Xylene	U		0.81	2.0	µg/L	1	9/27/2020 15:41
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/27/2020 15:41
Methylene chloride	U		0.86	5.0	µg/L	1	9/27/2020 15:41
Naphthalene	U		0.77	5.0	µg/L	1	9/27/2020 15:41
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 15:41
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/27/2020 15:41
o-Xylene	U		0.31	1.0	µg/L	1	9/27/2020 15:41
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/27/2020 15:41
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/27/2020 15:41
Styrene	U		0.33	1.0	µg/L	1	9/27/2020 15:41
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/27/2020 15:41
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/27/2020 15:41
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/27/2020 15:41
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/27/2020 15:41
Toluene	U		0.45	1.0	µg/L	1	9/27/2020 15:41
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/27/2020 15:41
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/27/2020 15:41
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/27/2020 15:41
Trichloroethene	U		0.43	1.0	µg/L	1	9/27/2020 15:41
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/27/2020 15:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-10
Collection Date: 9/15/2020 10:55 AM

Work Order: 20091397**Lab ID:** 20091397-09**Matrix:** GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/27/2020 15:41
Vinyl chloride	52		0.53	1.0	µg/L	1	9/27/2020 15:41
<i>Surr: 1,2-Dichloroethane-d4</i>	97.6			75-120	%REC	1	9/27/2020 15:41
<i>Surr: 4-Bromofluorobenzene</i>	102			80-110	%REC	1	9/27/2020 15:41
<i>Surr: Dibromofluoromethane</i>	102			85-115	%REC	1	9/27/2020 15:41
<i>Surr: Toluene-d8</i>	101			85-110	%REC	1	9/27/2020 15:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-11
Collection Date: 9/15/2020 11:40 AM

Work Order: 20091397
Lab ID: 20091397-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: SJB
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/27/2020 16:05
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 16:05
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/27/2020 16:05
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/27/2020 16:05
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/27/2020 16:05
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 16:05
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/27/2020 16:05
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/27/2020 16:05
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/27/2020 16:05
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 16:05
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/27/2020 16:05
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/27/2020 16:05
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/27/2020 16:05
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/27/2020 16:05
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/27/2020 16:05
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/27/2020 16:05
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/27/2020 16:05
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/27/2020 16:05
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/27/2020 16:05
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/27/2020 16:05
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/27/2020 16:05
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/27/2020 16:05
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/27/2020 16:05
2-Butanone	U		0.52	5.0	µg/L	1	9/27/2020 16:05
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/27/2020 16:05
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/27/2020 16:05
2-Hexanone	U		0.59	5.0	µg/L	1	9/27/2020 16:05
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/27/2020 16:05
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/27/2020 16:05
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/27/2020 16:05
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/27/2020 16:05
Acetone	U		6.2	10	µg/L	1	9/27/2020 16:05
Acrolein	U		0.38	1.0	µg/L	1	9/27/2020 16:05
Acrylonitrile	U		0.50	1.0	µg/L	1	9/27/2020 16:05
Benzene	U		0.46	1.0	µg/L	1	9/27/2020 16:05
Benzyl chloride	U		0.34	1.0	µg/L	1	9/27/2020 16:05
Bromobenzene	U		0.38	1.0	µg/L	1	9/27/2020 16:05
Bromochloromethane	U		0.45	1.0	µg/L	1	9/27/2020 16:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA
Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-11
Collection Date: 9/15/2020 11:40 AM

Work Order: 20091397
Lab ID: 20091397-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/27/2020 16:05
Bromoform	U		0.56	1.0	µg/L	1	9/27/2020 16:05
Bromomethane	U		0.90	1.0	µg/L	1	9/27/2020 16:05
Carbon disulfide	U		0.49	1.0	µg/L	1	9/27/2020 16:05
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/27/2020 16:05
Chlorobenzene	U		0.40	1.0	µg/L	1	9/27/2020 16:05
Chloroethane	U		0.68	1.0	µg/L	1	9/27/2020 16:05
Chloroform	U		0.46	1.0	µg/L	1	9/27/2020 16:05
Chloromethane	U		0.83	1.0	µg/L	1	9/27/2020 16:05
cis-1,2-Dichloroethene	2.7		0.42	1.0	µg/L	1	9/27/2020 16:05
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/27/2020 16:05
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/27/2020 16:05
Dibromomethane	U		0.65	1.0	µg/L	1	9/27/2020 16:05
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/27/2020 16:05
Ethylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 16:05
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/27/2020 16:05
Hexachloroethane	U		0.45	1.0	µg/L	1	9/27/2020 16:05
Hexane	U		0.40	1.0	µg/L	1	9/27/2020 16:05
Iodomethane	U		2.0	5.0	µg/L	1	9/27/2020 16:05
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/27/2020 16:05
m,p-Xylene	U		0.81	2.0	µg/L	1	9/27/2020 16:05
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/27/2020 16:05
Methylene chloride	U		0.86	5.0	µg/L	1	9/27/2020 16:05
Naphthalene	U		0.77	5.0	µg/L	1	9/27/2020 16:05
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/27/2020 16:05
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/27/2020 16:05
o-Xylene	U		0.31	1.0	µg/L	1	9/27/2020 16:05
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/27/2020 16:05
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/27/2020 16:05
Styrene	U		0.33	1.0	µg/L	1	9/27/2020 16:05
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/27/2020 16:05
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/27/2020 16:05
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/27/2020 16:05
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/27/2020 16:05
Toluene	U		0.45	1.0	µg/L	1	9/27/2020 16:05
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/27/2020 16:05
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/27/2020 16:05
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/27/2020 16:05
Trichloroethene	U		0.43	1.0	µg/L	1	9/27/2020 16:05
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/27/2020 16:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-11
Collection Date: 9/15/2020 11:40 AM

Work Order: 20091397
Lab ID: 20091397-10
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/27/2020 16:05
Vinyl chloride	35		0.53	1.0	µg/L	1	9/27/2020 16:05
Surrogate: 1,2-Dichloroethane-d4	91.6			75-120	%REC	1	9/27/2020 16:05
Surrogate: 4-Bromofluorobenzene	97.4			80-110	%REC	1	9/27/2020 16:05
Surrogate: Dibromofluoromethane	98.4			85-115	%REC	1	9/27/2020 16:05
Surrogate: Toluene-d8	102			85-110	%REC	1	9/27/2020 16:05

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-12
Collection Date: 9/15/2020 12:20 PM

Work Order: 20091397
Lab ID: 20091397-11
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: MF
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/28/2020 18:04
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:04
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/28/2020 18:04
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:04
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/28/2020 18:04
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:04
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/28/2020 18:04
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/28/2020 18:04
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/28/2020 18:04
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:04
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:04
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:04
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/28/2020 18:04
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/28/2020 18:04
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/28/2020 18:04
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:04
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/28/2020 18:04
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/28/2020 18:04
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/28/2020 18:04
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/28/2020 18:04
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:04
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/28/2020 18:04
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/28/2020 18:04
2-Butanone	U		0.52	5.0	µg/L	1	9/28/2020 18:04
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/28/2020 18:04
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/28/2020 18:04
2-Hexanone	U		0.59	5.0	µg/L	1	9/28/2020 18:04
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/28/2020 18:04
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/28/2020 18:04
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/28/2020 18:04
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/28/2020 18:04
Acetone	6.2	J	6.2	10	µg/L	1	9/28/2020 18:04
Acrolein	U		0.38	1.0	µg/L	1	9/28/2020 18:04
Acrylonitrile	U		0.50	1.0	µg/L	1	9/28/2020 18:04
Benzene	U		0.46	1.0	µg/L	1	9/28/2020 18:04
Benzyl chloride	0.34	J	0.34	1.0	µg/L	1	9/28/2020 18:04
Bromobenzene	U		0.38	1.0	µg/L	1	9/28/2020 18:04
Bromochloromethane	U		0.45	1.0	µg/L	1	9/28/2020 18:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
 Project: SSW Collis 2020 LTM Task 3
 Sample ID: COL-GW-12
 Collection Date: 9/15/2020 12:20 PM

Work Order: 20091397
 Lab ID: 20091397-11
 Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/28/2020 18:04
Bromoform	U		0.56	1.0	µg/L	1	9/28/2020 18:04
Bromomethane	U		0.90	1.0	µg/L	1	9/28/2020 18:04
Carbon disulfide	U		0.49	1.0	µg/L	1	9/28/2020 18:04
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/28/2020 18:04
Chlorobenzene	U		0.40	1.0	µg/L	1	9/28/2020 18:04
Chloroethane	U		0.68	1.0	µg/L	1	9/28/2020 18:04
Chloroform	U		0.46	1.0	µg/L	1	9/28/2020 18:04
Chloromethane	U		0.83	1.0	µg/L	1	9/28/2020 18:04
cis-1,2-Dichloroethene	130		2.1	5.0	µg/L	5	9/26/2020 18:52
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/28/2020 18:04
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/28/2020 18:04
Dibromomethane	U		0.65	1.0	µg/L	1	9/28/2020 18:04
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/28/2020 18:04
Ethylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:04
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/28/2020 18:04
Hexachloroethane	U		0.45	1.0	µg/L	1	9/28/2020 18:04
Hexane	U		0.40	1.0	µg/L	1	9/28/2020 18:04
Iodomethane	U		2.0	5.0	µg/L	1	9/28/2020 18:04
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/28/2020 18:04
m,p-Xylene	U		0.81	2.0	µg/L	1	9/28/2020 18:04
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/28/2020 18:04
Methylene chloride	U		0.86	5.0	µg/L	1	9/28/2020 18:04
Naphthalene	U		0.77	5.0	µg/L	1	9/28/2020 18:04
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:04
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/28/2020 18:04
o-Xylene	U		0.31	1.0	µg/L	1	9/28/2020 18:04
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/28/2020 18:04
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/28/2020 18:04
Styrene	U		0.33	1.0	µg/L	1	9/28/2020 18:04
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/28/2020 18:04
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/28/2020 18:04
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/28/2020 18:04
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/28/2020 18:04
Toluene	U		0.45	1.0	µg/L	1	9/28/2020 18:04
trans-1,2-Dichloroethene	5.2		0.48	1.0	µg/L	1	9/28/2020 18:04
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/28/2020 18:04
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/28/2020 18:04
Trichloroethene	U		0.43	1.0	µg/L	1	9/28/2020 18:04
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/28/2020 18:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-12
Collection Date: 9/15/2020 12:20 PM

Work Order: 20091397
Lab ID: 20091397-11
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/28/2020 18:04
Vinyl chloride	55		0.53	1.0	µg/L	1	9/28/2020 18:04
Sur: 1,2-Dichloroethane-d4	104			75-120	%REC	5	9/26/2020 18:52
Sur: 1,2-Dichloroethane-d4	112			75-120	%REC	1	9/28/2020 18:04
Sur: 4-Bromofluorobenzene	97.0			80-110	%REC	5	9/26/2020 18:52
Sur: 4-Bromofluorobenzene	93.4			80-110	%REC	1	9/28/2020 18:04
Sur: Dibromofluoromethane	99.4			85-115	%REC	5	9/26/2020 18:52
Sur: Dibromofluoromethane	107			85-115	%REC	1	9/28/2020 18:04
Sur: Toluene-d8	96.0			85-110	%REC	5	9/26/2020 18:52
Sur: Toluene-d8	100			85-110	%REC	1	9/28/2020 18:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA
Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-13
Collection Date: 9/15/2020 01:00 PM

Work Order: 20091397
Lab ID: 20091397-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: MF
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/28/2020 18:21
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:21
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/28/2020 18:21
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:21
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/28/2020 18:21
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:21
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/28/2020 18:21
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/28/2020 18:21
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/28/2020 18:21
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:21
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:21
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:21
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/28/2020 18:21
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/28/2020 18:21
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/28/2020 18:21
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:21
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/28/2020 18:21
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/28/2020 18:21
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/28/2020 18:21
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/28/2020 18:21
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:21
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/28/2020 18:21
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/28/2020 18:21
2-Butanone	U		0.52	5.0	µg/L	1	9/28/2020 18:21
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/28/2020 18:21
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/28/2020 18:21
2-Hexanone	U		0.59	5.0	µg/L	1	9/28/2020 18:21
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/28/2020 18:21
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/28/2020 18:21
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/28/2020 18:21
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/28/2020 18:21
Acetone	U		6.2	10	µg/L	1	9/28/2020 18:21
Acrolein	U		0.38	1.0	µg/L	1	9/28/2020 18:21
Acrylonitrile	U		0.50	1.0	µg/L	1	9/28/2020 18:21
Benzene	U		0.46	1.0	µg/L	1	9/28/2020 18:21
Benzyl chloride	U		0.34	1.0	µg/L	1	9/28/2020 18:21
Bromobenzene	U		0.38	1.0	µg/L	1	9/28/2020 18:21
Bromochloromethane	U		0.45	1.0	µg/L	1	9/28/2020 18:21

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-13
Collection Date: 9/15/2020 01:00 PM

Work Order: 20091397
Lab ID: 20091397-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/28/2020 18:21
Bromoform	U		0.56	1.0	µg/L	1	9/28/2020 18:21
Bromomethane	U		0.90	1.0	µg/L	1	9/28/2020 18:21
Carbon disulfide	U		0.49	1.0	µg/L	1	9/28/2020 18:21
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/28/2020 18:21
Chlorobenzene	U		0.40	1.0	µg/L	1	9/28/2020 18:21
Chloroethane	U		0.40	1.0	µg/L	1	9/28/2020 18:21
Chloroform	U		0.68	1.0	µg/L	1	9/28/2020 18:21
Chloromethane	U		0.46	1.0	µg/L	1	9/28/2020 18:21
cis-1,2-Dichloroethene	3.2		0.42	1.0	µg/L	1	9/28/2020 18:21
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/28/2020 18:21
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/28/2020 18:21
Dibromomethane	U		0.65	1.0	µg/L	1	9/28/2020 18:21
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/28/2020 18:21
Ethylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:21
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/28/2020 18:21
Hexachloroethane	U		0.45	1.0	µg/L	1	9/28/2020 18:21
Hexane	U		0.40	1.0	µg/L	1	9/28/2020 18:21
Iodomethane	U		0.40	1.0	µg/L	1	9/28/2020 18:21
Isopropylbenzene	U		2.0	5.0	µg/L	1	9/28/2020 18:21
m,p-Xylene	U		0.35	1.0	µg/L	1	9/28/2020 18:21
Methyl tert-butyl ether	U		0.81	2.0	µg/L	1	9/28/2020 18:21
Methylene chloride	U		0.45	1.0	µg/L	1	9/28/2020 18:21
Naphthalene	U		0.86	5.0	µg/L	1	9/28/2020 18:21
n-Butylbenzene	U		0.77	5.0	µg/L	1	9/28/2020 18:21
n-Propylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:21
o-Xylene	U		0.48	1.0	µg/L	1	9/28/2020 18:21
p-Isopropyltoluene	U		0.31	1.0	µg/L	1	9/28/2020 18:21
sec-Butylbenzene	U		0.26	1.0	µg/L	1	9/28/2020 18:21
Styrene	U		0.30	1.0	µg/L	1	9/28/2020 18:21
tert-Butyl alcohol	U		0.33	1.0	µg/L	1	9/28/2020 18:21
tert-Butylbenzene	U		2.4	20	µg/L	1	9/28/2020 18:21
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/28/2020 18:21
Tetrahydrofuran	U		0.39	1.0	µg/L	1	9/28/2020 18:21
Toluene	U		0.73	1.0	µg/L	1	9/28/2020 18:21
trans-1,2-Dichloroethene	U		0.45	1.0	µg/L	1	9/28/2020 18:21
trans-1,3-Dichloropropene	U		0.48	1.0	µg/L	1	9/28/2020 18:21
trans-1,4-Dichloro-2-butene	U		0.38	1.0	µg/L	1	9/28/2020 18:21
Trichloroethene	U		0.58	2.0	µg/L	1	9/28/2020 18:21
Trichlorofluoromethane	U		0.43	1.0	µg/L	1	9/28/2020 18:21
			0.52	1.0	µg/L	1	9/28/2020 18:21

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-13
Collection Date: 9/15/2020 01:00 PM

Work Order: 20091397
Lab ID: 20091397-12
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/28/2020 18:21
Vinyl chloride	1.2		0.53	1.0	µg/L	1	9/28/2020 18:21
<i>Surr: 1,2-Dichloroethane-d4</i>	106			75-120	%REC	1	9/28/2020 18:21
<i>Surr: 4-Bromofluorobenzene</i>	91.7			80-110	%REC	1	9/28/2020 18:21
<i>Surr: Dibromofluoromethane</i>	106			85-115	%REC	1	9/28/2020 18:21
<i>Surr: Toluene-d8</i>	102			85-110	%REC	1	9/28/2020 18:21

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-14
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-13
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: MF
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/28/2020 19:11
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 19:11
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/28/2020 19:11
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 19:11
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/28/2020 19:11
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 19:11
1,1-Dichloroethene	1.5		0.40	1.0	µg/L	1	9/28/2020 19:11
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/28/2020 19:11
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/28/2020 19:11
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 19:11
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/28/2020 19:11
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/28/2020 19:11
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/28/2020 19:11
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/28/2020 19:11
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/28/2020 19:11
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 19:11
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/28/2020 19:11
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/28/2020 19:11
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/28/2020 19:11
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/28/2020 19:11
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 19:11
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/28/2020 19:11
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/28/2020 19:11
2-Butanone	U		0.52	5.0	µg/L	1	9/28/2020 19:11
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/28/2020 19:11
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/28/2020 19:11
2-Hexanone	U		0.59	5.0	µg/L	1	9/28/2020 19:11
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/28/2020 19:11
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/28/2020 19:11
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/28/2020 19:11
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/28/2020 19:11
Acetone	U		6.2	10	µg/L	1	9/28/2020 19:11
Acrolein	U		0.38	1.0	µg/L	1	9/28/2020 19:11
Acrylonitrile	U		0.50	1.0	µg/L	1	9/28/2020 19:11
Benzene	U		0.46	1.0	µg/L	1	9/28/2020 19:11
Benzyl chloride	U		0.34	1.0	µg/L	1	9/28/2020 19:11
Bromobenzene	U		0.38	1.0	µg/L	1	9/28/2020 19:11
Bromochloromethane	U		0.45	1.0	µg/L	1	9/28/2020 19:11

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-14
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-13
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/28/2020 19:11
Bromoform	U		0.56	1.0	µg/L	1	9/28/2020 19:11
Bromomethane	U		0.90	1.0	µg/L	1	9/28/2020 19:11
Carbon disulfide	U		0.49	1.0	µg/L	1	9/28/2020 19:11
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/28/2020 19:11
Chlorobenzene	U		0.40	1.0	µg/L	1	9/28/2020 19:11
Chloroethane	U		0.68	1.0	µg/L	1	9/28/2020 19:11
Chloroform	U		0.46	1.0	µg/L	1	9/28/2020 19:11
Chloromethane	U		0.83	1.0	µg/L	1	9/28/2020 19:11
cis-1,2-Dichloroethene	190		2.1	5.0	µg/L	5	9/28/2020 18:41
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/28/2020 19:11
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/28/2020 19:11
Dibromomethane	U		0.65	1.0	µg/L	1	9/28/2020 19:11
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/28/2020 19:11
Ethylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 19:11
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/28/2020 19:11
Hexachloroethane	U		0.45	1.0	µg/L	1	9/28/2020 19:11
Hexane	U		0.40	1.0	µg/L	1	9/28/2020 19:11
Iodomethane	U		2.0	5.0	µg/L	1	9/28/2020 19:11
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/28/2020 19:11
m,p-Xylene	U		0.81	2.0	µg/L	1	9/28/2020 19:11
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/28/2020 19:11
Methylene chloride	U		0.86	5.0	µg/L	1	9/28/2020 19:11
Naphthalene	U		0.77	5.0	µg/L	1	9/28/2020 19:11
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 19:11
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/28/2020 19:11
o-Xylene	U		0.31	1.0	µg/L	1	9/28/2020 19:11
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/28/2020 19:11
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/28/2020 19:11
Styrene	U		0.33	1.0	µg/L	1	9/28/2020 19:11
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/28/2020 19:11
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/28/2020 19:11
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/28/2020 19:11
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/28/2020 19:11
Toluene	U		0.45	1.0	µg/L	1	9/28/2020 19:11
trans-1,2-Dichloroethene	12		0.48	1.0	µg/L	1	9/28/2020 19:11
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/28/2020 19:11
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/28/2020 19:11
Trichloroethene	U		0.43	1.0	µg/L	1	9/28/2020 19:11
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/28/2020 19:11

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-14
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-13
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/28/2020 19:11
Vinyl chloride	62		2.6	5.0	µg/L	5	9/28/2020 18:41
Surr: 1,2-Dichloroethane-d4	90.2			75-120	%REC	5	9/28/2020 18:41
Surr: 1,2-Dichloroethane-d4	113			75-120	%REC	1	9/28/2020 19:11
Surr: 4-Bromofluorobenzene	95.5			80-110	%REC	5	9/28/2020 18:41
Surr: 4-Bromofluorobenzene	97.0			80-110	%REC	1	9/28/2020 19:11
Surr: Dibromofluoromethane	99.6			85-115	%REC	5	9/28/2020 18:41
Surr: Dibromofluoromethane	106			85-115	%REC	1	9/28/2020 19:11
Surr: Toluene-d8	102			85-110	%REC	5	9/28/2020 18:41
Surr: Toluene-d8	109			85-110	%REC	1	9/28/2020 19:11

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-15
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-14
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: MF
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/28/2020 18:54
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:54
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/28/2020 18:54
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:54
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/28/2020 18:54
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:54
1,1-Dichloroethene	1.3		0.40	1.0	µg/L	1	9/28/2020 18:54
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/28/2020 18:54
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/28/2020 18:54
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:54
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:54
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:54
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/28/2020 18:54
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/28/2020 18:54
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/28/2020 18:54
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:54
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/28/2020 18:54
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/28/2020 18:54
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/28/2020 18:54
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/28/2020 18:54
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:54
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/28/2020 18:54
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/28/2020 18:54
2-Butanone	U		0.52	5.0	µg/L	1	9/28/2020 18:54
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/28/2020 18:54
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/28/2020 18:54
2-Hexanone	U		0.59	5.0	µg/L	1	9/28/2020 18:54
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/28/2020 18:54
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/28/2020 18:54
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/28/2020 18:54
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/28/2020 18:54
Acetone	U		6.2	10	µg/L	1	9/28/2020 18:54
Acrolein	U		0.38	1.0	µg/L	1	9/28/2020 18:54
Acrylonitrile	U		0.50	1.0	µg/L	1	9/28/2020 18:54
Benzene	U		0.46	1.0	µg/L	1	9/28/2020 18:54
Benzyl chloride	U		0.34	1.0	µg/L	1	9/28/2020 18:54
Bromobenzene	U		0.38	1.0	µg/L	1	9/28/2020 18:54
Bromochloromethane	U		0.45	1.0	µg/L	1	9/28/2020 18:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA
Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-15
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-14
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/28/2020 18:54
Bromoform	U		0.56	1.0	µg/L	1	9/28/2020 18:54
Bromomethane	U		0.90	1.0	µg/L	1	9/28/2020 18:54
Carbon disulfide	U		0.49	1.0	µg/L	1	9/28/2020 18:54
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/28/2020 18:54
Chlorobenzene	U		0.40	1.0	µg/L	1	9/28/2020 18:54
Chloroethane	U		0.68	1.0	µg/L	1	9/28/2020 18:54
Chloroform	U		0.46	1.0	µg/L	1	9/28/2020 18:54
Chloromethane	U		0.83	1.0	µg/L	1	9/28/2020 18:54
cis-1,2-Dichloroethene	190		2.1	5.0	µg/L	5	9/26/2020 19:14
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/28/2020 18:54
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/28/2020 18:54
Dibromomethane	U		0.65	1.0	µg/L	1	9/28/2020 18:54
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/28/2020 18:54
Ethylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:54
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/28/2020 18:54
Hexachloroethane	U		0.45	1.0	µg/L	1	9/28/2020 18:54
Hexane	U		0.40	1.0	µg/L	1	9/28/2020 18:54
Iodomethane	U		2.0	5.0	µg/L	1	9/28/2020 18:54
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/28/2020 18:54
m,p-Xylene	U		0.81	2.0	µg/L	1	9/28/2020 18:54
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/28/2020 18:54
Methylene chloride	U		0.86	5.0	µg/L	1	9/28/2020 18:54
Naphthalene	U		0.77	5.0	µg/L	1	9/28/2020 18:54
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:54
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/28/2020 18:54
o-Xylene	U		0.31	1.0	µg/L	1	9/28/2020 18:54
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/28/2020 18:54
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/28/2020 18:54
Styrene	U		0.33	1.0	µg/L	1	9/28/2020 18:54
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/28/2020 18:54
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/28/2020 18:54
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/28/2020 18:54
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/28/2020 18:54
Toluene	U		0.45	1.0	µg/L	1	9/28/2020 18:54
trans-1,2-Dichloroethene	10		0.48	1.0	µg/L	1	9/28/2020 18:54
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/28/2020 18:54
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/28/2020 18:54
Trichloroethene	U		0.43	1.0	µg/L	1	9/28/2020 18:54
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/28/2020 18:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-15
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-14
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/28/2020 18:54
Vinyl chloride	92		0.53	1.0	µg/L	1	9/28/2020 18:54
Sur: 1,2-Dichloroethane-d4	105			75-120	%REC	5	9/26/2020 19:14
Sur: 1,2-Dichloroethane-d4	113			75-120	%REC	1	9/28/2020 18:54
Sur: 4-Bromofluorobenzene	97.8			80-110	%REC	5	9/26/2020 19:14
Sur: 4-Bromofluorobenzene	88.6			80-110	%REC	1	9/28/2020 18:54
Sur: Dibromofluoromethane	97.7			85-115	%REC	5	9/26/2020 19:14
Sur: Dibromofluoromethane	108			85-115	%REC	1	9/28/2020 18:54
Sur: Toluene-d8	101			85-110	%REC	5	9/26/2020 19:14
Sur: Toluene-d8	97.2			85-110	%REC	1	9/28/2020 18:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: EB
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-15
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
GASES IN WATER							
Ethane	U		1.5	5.0	µg/L	1	9/22/2020 14:45
Ethene	U		1.7	5.0	µg/L	1	9/22/2020 14:45
Methane	U		2.0	5.0	µg/L	1	9/22/2020 14:45
METALS BY ICP-MS (DISSOLVED)							
Iron	U		0.050	0.080	mg/L	1	9/28/2020 16:31
Manganese	U		0.0025	0.0050	mg/L	1	9/28/2020 16:31
1,4-DIOXANE BY SELECT ION MONITORING							
1,4-Dioxane	U		0.44	0.60	µg/L	1	9/27/2020 09:24
<i>Sur: Toluene-d8</i>	98.3			74-124	%REC	1	9/27/2020 09:24
VOLATILE ORGANIC COMPOUNDS							
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/28/2020 18:38
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:38
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/28/2020 18:38
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/28/2020 18:38
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/28/2020 18:38
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:38
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/28/2020 18:38
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/28/2020 18:38
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/28/2020 18:38
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:38
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:38
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/28/2020 18:38
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/28/2020 18:38
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/28/2020 18:38
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/28/2020 18:38
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/28/2020 18:38
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/28/2020 18:38
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/28/2020 18:38
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/28/2020 18:38
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/28/2020 18:38
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/28/2020 18:38
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/28/2020 18:38
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/28/2020 18:38
2-Butanone	U		0.52	5.0	µg/L	1	9/28/2020 18:38
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/28/2020 18:38
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/28/2020 18:38
2-Hexanone	U		0.59	5.0	µg/L	1	9/28/2020 18:38

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: EB
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-15
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/28/2020 18:38
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/28/2020 18:38
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/28/2020 18:38
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/28/2020 18:38
Acetone	U		6.2	10	µg/L	1	9/28/2020 18:38
Acrolein	U		0.38	1.0	µg/L	1	9/28/2020 18:38
Acrylonitrile	U		0.50	1.0	µg/L	1	9/28/2020 18:38
Benzene	U		0.46	1.0	µg/L	1	9/28/2020 18:38
Benzyl chloride	U		0.34	1.0	µg/L	1	9/28/2020 18:38
Bromobenzene	U		0.38	1.0	µg/L	1	9/28/2020 18:38
Bromochloromethane	U		0.45	1.0	µg/L	1	9/28/2020 18:38
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/28/2020 18:38
Bromoform	U		0.56	1.0	µg/L	1	9/28/2020 18:38
Bromomethane	U		0.90	1.0	µg/L	1	9/28/2020 18:38
Carbon disulfide	U		0.49	1.0	µg/L	1	9/28/2020 18:38
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/28/2020 18:38
Chlorobenzene	U		0.40	1.0	µg/L	1	9/28/2020 18:38
Chloroethane	U		0.68	1.0	µg/L	1	9/28/2020 18:38
Chloroform	0.87	J	0.46	1.0	µg/L	1	9/28/2020 18:38
Chloromethane	U		0.83	1.0	µg/L	1	9/28/2020 18:38
cis-1,2-Dichloroethene	U		0.42	1.0	µg/L	1	9/28/2020 18:38
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/28/2020 18:38
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/28/2020 18:38
Dibromomethane	U		0.65	1.0	µg/L	1	9/28/2020 18:38
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/28/2020 18:38
Ethylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:38
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/28/2020 18:38
Hexachloroethane	U		0.45	1.0	µg/L	1	9/28/2020 18:38
Hexane	U		0.40	1.0	µg/L	1	9/28/2020 18:38
Iodomethane	U		2.0	5.0	µg/L	1	9/28/2020 18:38
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/28/2020 18:38
m,p-Xylene	U		0.81	2.0	µg/L	1	9/28/2020 18:38
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/28/2020 18:38
Methylene chloride	U		0.86	5.0	µg/L	1	9/28/2020 18:38
Naphthalene	U		0.77	5.0	µg/L	1	9/28/2020 18:38
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/28/2020 18:38
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/28/2020 18:38
o-Xylene	U		0.31	1.0	µg/L	1	9/28/2020 18:38
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/28/2020 18:38
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/28/2020 18:38

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: EB
Collection Date: 9/15/2020 01:45 PM

Work Order: 20091397
Lab ID: 20091397-15
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.33	1.0	µg/L	1	9/28/2020 18:38
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/28/2020 18:38
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/28/2020 18:38
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/28/2020 18:38
Tetrahydrofuran	U		0.39	1.0	µg/L	1	9/28/2020 18:38
Toluene	U		0.73	1.0	µg/L	1	9/28/2020 18:38
trans-1,2-Dichloroethene	U		0.45	1.0	µg/L	1	9/28/2020 18:38
trans-1,3-Dichloropropene	U		0.48	1.0	µg/L	1	9/28/2020 18:38
trans-1,4-Dichloro-2-butene	U		0.38	1.0	µg/L	1	9/28/2020 18:38
Trichloroethene	U		0.58	2.0	µg/L	1	9/28/2020 18:38
Trichlorofluoromethane	U		0.43	1.0	µg/L	1	9/28/2020 18:38
Vinyl acetate	U		0.52	1.0	µg/L	1	9/28/2020 18:38
Vinyl chloride	U		0.83	5.0	µg/L	1	9/28/2020 18:38
Surr: 1,2-Dichloroethane-d4	112			75-120	%REC	1	9/28/2020 18:38
Surr: 4-Bromofluorobenzene	91.4			80-110	%REC	1	9/28/2020 18:38
Surr: Dibromofluoromethane	107			85-115	%REC	1	9/28/2020 18:38
Surr: Toluene-d8	95.7			85-110	%REC	1	9/28/2020 18:38
ANIONS BY ION CHROMATOGRAPHY							
				Method: SW9056A			
Chloride	0.75	J	0.31	1.0	mg/L	1	Analyst: JDR
Sulfate	U		0.34	1.0	mg/L	1	9/22/2020 18:22
NITROGEN, NITRATE-NITRITE							
Nitrogen, Nitrate-Nitrite	0.098		0.012	0.020	mg/L	1	Analyst: CAC
SULFIDE							
Sulfide	U		0.42	1.0	mg/L	1	Analyst: ERW
				Method: SW9034			
							9/22/2020 18:50

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: Trip Blank #1
Collection Date: 9/15/2020

Work Order: 20091397
Lab ID: 20091397-16
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
				Method: SW8260C			Analyst: BG
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/26/2020 03:45
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 03:45
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/26/2020 03:45
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 03:45
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/26/2020 03:45
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 03:45
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/26/2020 03:45
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/26/2020 03:45
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/26/2020 03:45
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 03:45
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/26/2020 03:45
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/26/2020 03:45
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/26/2020 03:45
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/26/2020 03:45
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/26/2020 03:45
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 03:45
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/26/2020 03:45
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/26/2020 03:45
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/26/2020 03:45
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/26/2020 03:45
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 03:45
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/26/2020 03:45
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/26/2020 03:45
2-Butanone	U		0.52	5.0	µg/L	1	9/26/2020 03:45
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/26/2020 03:45
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/26/2020 03:45
2-Hexanone	U		0.59	5.0	µg/L	1	9/26/2020 03:45
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/26/2020 03:45
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/26/2020 03:45
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/26/2020 03:45
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/26/2020 03:45
Acetone	U		6.2	10	µg/L	1	9/26/2020 03:45
Acrolein	U		0.38	1.0	µg/L	1	9/26/2020 03:45
Acrylonitrile	U		0.50	1.0	µg/L	1	9/26/2020 03:45
Benzene	U		0.46	1.0	µg/L	1	9/26/2020 03:45
Benzyl chloride	U		0.34	1.0	µg/L	1	9/26/2020 03:45
Bromobenzene	U		0.38	1.0	µg/L	1	9/26/2020 03:45
Bromochloromethane	U		0.45	1.0	µg/L	1	9/26/2020 03:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: Trip Blank #1
Collection Date: 9/15/2020

Work Order: 20091397
Lab ID: 20091397-16
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/26/2020 03:45
Bromoform	U		0.56	1.0	µg/L	1	9/26/2020 03:45
Bromomethane	U		0.90	1.0	µg/L	1	9/26/2020 03:45
Carbon disulfide	U		0.49	1.0	µg/L	1	9/26/2020 03:45
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/26/2020 03:45
Chlorobenzene	U		0.40	1.0	µg/L	1	9/26/2020 03:45
Chloroethane	U		0.68	1.0	µg/L	1	9/26/2020 03:45
Chloroform	U		0.46	1.0	µg/L	1	9/26/2020 03:45
Chloromethane	U		0.83	1.0	µg/L	1	9/26/2020 03:45
cis-1,2-Dichloroethene	U		0.42	1.0	µg/L	1	9/26/2020 03:45
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/26/2020 03:45
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/26/2020 03:45
Dibromomethane	U		0.65	1.0	µg/L	1	9/26/2020 03:45
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/26/2020 03:45
Ethylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 03:45
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/26/2020 03:45
Hexachloroethane	U		0.45	1.0	µg/L	1	9/26/2020 03:45
Hexane	U		0.40	1.0	µg/L	1	9/26/2020 03:45
Iodomethane	U		2.0	5.0	µg/L	1	9/26/2020 03:45
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/26/2020 03:45
m,p-Xylene	U		0.81	2.0	µg/L	1	9/26/2020 03:45
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/26/2020 03:45
Methylene chloride	U		0.86	5.0	µg/L	1	9/26/2020 03:45
Naphthalene	U		0.77	5.0	µg/L	1	9/26/2020 03:45
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 03:45
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/26/2020 03:45
o-Xylene	U		0.31	1.0	µg/L	1	9/26/2020 03:45
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/26/2020 03:45
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/26/2020 03:45
Styrene	U		0.33	1.0	µg/L	1	9/26/2020 03:45
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/26/2020 03:45
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/26/2020 03:45
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/26/2020 03:45
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/26/2020 03:45
Toluene	U		0.45	1.0	µg/L	1	9/26/2020 03:45
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/26/2020 03:45
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/26/2020 03:45
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/26/2020 03:45
Trichloroethene	U		0.43	1.0	µg/L	1	9/26/2020 03:45
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/26/2020 03:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: Trip Blank #1
Collection Date: 9/15/2020

Work Order: 20091397
Lab ID: 20091397-16
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/26/2020 03:45
Vinyl chloride	U		0.53	1.0	µg/L	1	9/26/2020 03:45
<i>Surr: 1,2-Dichloroethane-d4</i>	94.0			75-120	%REC	1	9/26/2020 03:45
<i>Surr: 4-Bromofluorobenzene</i>	95.8			80-110	%REC	1	9/26/2020 03:45
<i>Surr: Dibromofluoromethane</i>	95.2			85-115	%REC	1	9/26/2020 03:45
<i>Surr: Toluene-d8</i>	98.6			85-110	%REC	1	9/26/2020 03:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA
Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: Trip Blank #2
Collection Date: 9/15/2020

Work Order: 20091397
Lab ID: 20091397-17
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS							
			Method: SW8260C				Analyst: BG
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/26/2020 04:07
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 04:07
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/26/2020 04:07
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 04:07
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/26/2020 04:07
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 04:07
1,1-Dichloroethene	U		0.40	1.0	µg/L	1	9/26/2020 04:07
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/26/2020 04:07
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/26/2020 04:07
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 04:07
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/26/2020 04:07
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/26/2020 04:07
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/26/2020 04:07
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/26/2020 04:07
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/26/2020 04:07
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 04:07
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/26/2020 04:07
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/26/2020 04:07
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/26/2020 04:07
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/26/2020 04:07
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 04:07
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/26/2020 04:07
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/26/2020 04:07
2-Butanone	U		0.52	5.0	µg/L	1	9/26/2020 04:07
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/26/2020 04:07
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/26/2020 04:07
2-Hexanone	U		0.59	5.0	µg/L	1	9/26/2020 04:07
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/26/2020 04:07
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/26/2020 04:07
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/26/2020 04:07
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/26/2020 04:07
Acetone	U		6.2	10	µg/L	1	9/26/2020 04:07
Acrolein	U		0.38	1.0	µg/L	1	9/26/2020 04:07
Acrylonitrile	U		0.50	1.0	µg/L	1	9/26/2020 04:07
Benzene	U		0.46	1.0	µg/L	1	9/26/2020 04:07
Benzyl chloride	U		0.34	1.0	µg/L	1	9/26/2020 04:07
Bromobenzene	U		0.38	1.0	µg/L	1	9/26/2020 04:07
Bromochloromethane	U		0.45	1.0	µg/L	1	9/26/2020 04:07

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
 Project: SSW Collis 2020 LTM Task 3
 Sample ID: Trip Blank #2
 Collection Date: 9/15/2020

Work Order: 20091397
 Lab ID: 20091397-17
 Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/26/2020 04:07
Bromoform	U		0.56	1.0	µg/L	1	9/26/2020 04:07
Bromomethane	U		0.90	1.0	µg/L	1	9/26/2020 04:07
Carbon disulfide	U		0.49	1.0	µg/L	1	9/26/2020 04:07
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/26/2020 04:07
Chlorobenzene	U		0.40	1.0	µg/L	1	9/26/2020 04:07
Chloroethane	U		0.68	1.0	µg/L	1	9/26/2020 04:07
Chloroform	U		0.46	1.0	µg/L	1	9/26/2020 04:07
Chloromethane	U		0.83	1.0	µg/L	1	9/26/2020 04:07
cis-1,2-Dichloroethene	U		0.42	1.0	µg/L	1	9/26/2020 04:07
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/26/2020 04:07
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/26/2020 04:07
Dibromomethane	U		0.65	1.0	µg/L	1	9/26/2020 04:07
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/26/2020 04:07
Ethylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 04:07
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/26/2020 04:07
Hexachloroethane	U		0.45	1.0	µg/L	1	9/26/2020 04:07
Hexane	U		0.40	1.0	µg/L	1	9/26/2020 04:07
Iodomethane	U		2.0	5.0	µg/L	1	9/26/2020 04:07
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/26/2020 04:07
m,p-Xylene	U		0.81	2.0	µg/L	1	9/26/2020 04:07
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/26/2020 04:07
Methylene chloride	U		0.86	5.0	µg/L	1	9/26/2020 04:07
Naphthalene	U		0.77	5.0	µg/L	1	9/26/2020 04:07
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 04:07
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/26/2020 04:07
o-Xylene	U		0.31	1.0	µg/L	1	9/26/2020 04:07
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/26/2020 04:07
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/26/2020 04:07
Styrene	U		0.33	1.0	µg/L	1	9/26/2020 04:07
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/26/2020 04:07
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/26/2020 04:07
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/26/2020 04:07
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/26/2020 04:07
Toluene	U		0.45	1.0	µg/L	1	9/26/2020 04:07
trans-1,2-Dichloroethene	U		0.48	1.0	µg/L	1	9/26/2020 04:07
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/26/2020 04:07
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/26/2020 04:07
Trichloroethene	U		0.43	1.0	µg/L	1	9/26/2020 04:07
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/26/2020 04:07

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: Trip Blank #2
Collection Date: 9/15/2020

Work Order: 20091397
Lab ID: 20091397-17
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Vinyl acetate	U		0.83	5.0	µg/L	1	9/26/2020 04:07
Vinyl chloride	U		0.53	1.0	µg/L	1	9/26/2020 04:07
<i>Surr: 1,2-Dichloroethane-d4</i>	96.0			75-120	%REC	1	9/26/2020 04:07
<i>Surr: 4-Bromofluorobenzene</i>	95.4			80-110	%REC	1	9/26/2020 04:07
<i>Surr: Dibromofluoromethane</i>	97.2			85-115	%REC	1	9/26/2020 04:07
<i>Surr: Toluene-d8</i>	100			85-110	%REC	1	9/26/2020 04:07

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
 Project: SSW Collis 2020 LTM Task 3
 Sample ID: COL-GW-06
 Collection Date: 9/14/2020 05:50 PM

Work Order: 20091397
 Lab ID: 20091397-18
 Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
GASES IN WATER							
Ethane	8.7		1.5	5.0	µg/L	1	9/22/2020 14:48
Ethene	U		1.7	5.0	µg/L	1	9/22/2020 14:48
Methane	130		2.0	5.0	µg/L	1	9/22/2020 14:48
METALS BY ICP-MS (DISSOLVED)							
Iron	U		0.050	0.080	mg/L	1	9/28/2020 16:32
Manganese	0.40		0.0025	0.0050	mg/L	1	9/28/2020 16:32
1,4-DIOXANE BY SELECT ION MONITORING							
1,4-Dioxane	U		0.44	0.60	µg/L	1	9/27/2020 10:43
Surr: Toluene-d8	91.5			74-124	%REC	1	9/27/2020 10:43
VOLATILE ORGANIC COMPOUNDS							
1,1,1,2-Tetrachloroethane	U		0.38	1.0	µg/L	1	9/26/2020 08:31
1,1,1-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 08:31
1,1,2,2-Tetrachloroethane	U		0.40	1.0	µg/L	1	9/26/2020 08:31
1,1,2-Trichloroethane	U		0.46	1.0	µg/L	1	9/26/2020 08:31
1,1,2-Trichlorotrifluoroethane	U		0.52	1.0	µg/L	1	9/26/2020 08:31
1,1-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 08:31
1,1-Dichloroethene	0.41	J	0.40	1.0	µg/L	1	9/26/2020 08:31
1,1-Dichloropropene	U		0.37	1.0	µg/L	1	9/26/2020 08:31
1,2,3-Trichlorobenzene	U		0.42	1.0	µg/L	1	9/26/2020 08:31
1,2,3-Trichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 08:31
1,2,4-Trichlorobenzene	U		0.45	1.0	µg/L	1	9/26/2020 08:31
1,2,4-Trimethylbenzene	U		0.45	1.0	µg/L	1	9/26/2020 08:31
1,2-Dibromo-3-chloropropane	U		0.43	1.0	µg/L	1	9/26/2020 08:31
1,2-Dibromoethane	U		0.41	1.0	µg/L	1	9/26/2020 08:31
1,2-Dichlorobenzene	U		0.32	1.0	µg/L	1	9/26/2020 08:31
1,2-Dichloroethane	U		0.44	1.0	µg/L	1	9/26/2020 08:31
1,2-Dichloropropane	U		0.48	1.0	µg/L	1	9/26/2020 08:31
1,3,5-Trichlorobenzene	U		0.31	1.0	µg/L	1	9/26/2020 08:31
1,3,5-Trimethylbenzene	U		0.65	1.0	µg/L	1	9/26/2020 08:31
1,3-Dichlorobenzene	U		0.33	1.0	µg/L	1	9/26/2020 08:31
1,3-Dichloropropane	U		0.40	1.0	µg/L	1	9/26/2020 08:31
1,4-Dichlorobenzene	U		0.35	1.0	µg/L	1	9/26/2020 08:31
2,2-Dichloropropane	U		0.52	1.0	µg/L	1	9/26/2020 08:31
2-Butanone	U		0.52	5.0	µg/L	1	9/26/2020 08:31
2-Chloroethyl vinyl ether	U		0.82	1.0	µg/L	1	9/26/2020 08:31
2-Chlorotoluene	U		0.36	1.0	µg/L	1	9/26/2020 08:31
2-Hexanone	U		0.59	5.0	µg/L	1	9/26/2020 08:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA
Date: 30-Sep-20

Client: BB&E, Inc.
Project: SSW Collis 2020 LTM Task 3
Sample ID: COL-GW-06
Collection Date: 9/14/2020 05:50 PM

Work Order: 20091397
Lab ID: 20091397-18
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Methylnaphthalene	U		0.66	5.0	µg/L	1	9/26/2020 08:31
4-Chlorotoluene	U		0.31	1.0	µg/L	1	9/26/2020 08:31
4-Isopropyltoluene	U		0.10	1.0	µg/L	1	9/26/2020 08:31
4-Methyl-2-pentanone	U		0.52	1.0	µg/L	1	9/26/2020 08:31
Acetone	U		6.2	10	µg/L	1	9/26/2020 08:31
Acrolein	U		0.38	1.0	µg/L	1	9/26/2020 08:31
Acrylonitrile	U		0.50	1.0	µg/L	1	9/26/2020 08:31
Benzene	U		0.46	1.0	µg/L	1	9/26/2020 08:31
Benzyl chloride	U		0.34	1.0	µg/L	1	9/26/2020 08:31
Bromobenzene	U		0.38	1.0	µg/L	1	9/26/2020 08:31
Bromochloromethane	U		0.45	1.0	µg/L	1	9/26/2020 08:31
Bromodichloromethane	U		0.49	1.0	µg/L	1	9/26/2020 08:31
Bromoform	U		0.56	1.0	µg/L	1	9/26/2020 08:31
Bromomethane	U		0.90	1.0	µg/L	1	9/26/2020 08:31
Carbon disulfide	U		0.49	1.0	µg/L	1	9/26/2020 08:31
Carbon tetrachloride	U		0.40	1.0	µg/L	1	9/26/2020 08:31
Chlorobenzene	U		0.40	1.0	µg/L	1	9/26/2020 08:31
Chloroethane	U		0.68	1.0	µg/L	1	9/26/2020 08:31
Chloroform	U		0.46	1.0	µg/L	1	9/26/2020 08:31
Chloromethane	U		0.83	1.0	µg/L	1	9/26/2020 08:31
cis-1,2-Dichloroethene	100		2.1	5.0	µg/L	5	9/27/2020 19:19
cis-1,3-Dichloropropene	U		0.57	1.0	µg/L	1	9/26/2020 08:31
Dibromochloromethane	U		0.40	1.0	µg/L	1	9/26/2020 08:31
Dibromomethane	U		0.65	1.0	µg/L	1	9/26/2020 08:31
Dichlorodifluoromethane	U		0.68	1.0	µg/L	1	9/26/2020 08:31
Ethylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 08:31
Hexachlorobutadiene	U		0.56	1.0	µg/L	1	9/26/2020 08:31
Hexachloroethane	U		0.45	1.0	µg/L	1	9/26/2020 08:31
Hexane	U		0.40	1.0	µg/L	1	9/26/2020 08:31
Iodomethane	U		2.0	5.0	µg/L	1	9/26/2020 08:31
Isopropylbenzene	U		0.35	1.0	µg/L	1	9/26/2020 08:31
m,p-Xylene	U		0.81	2.0	µg/L	1	9/26/2020 08:31
Methyl tert-butyl ether	U		0.45	1.0	µg/L	1	9/26/2020 08:31
Methylene chloride	U		0.86	5.0	µg/L	1	9/26/2020 08:31
Naphthalene	U		0.77	5.0	µg/L	1	9/26/2020 08:31
n-Butylbenzene	U		0.34	1.0	µg/L	1	9/26/2020 08:31
n-Propylbenzene	U		0.48	1.0	µg/L	1	9/26/2020 08:31
o-Xylene	U		0.31	1.0	µg/L	1	9/26/2020 08:31
p-Isopropyltoluene	U		0.26	1.0	µg/L	1	9/26/2020 08:31
sec-Butylbenzene	U		0.30	1.0	µg/L	1	9/26/2020 08:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.
 Project: SSW Collis 2020 LTM Task 3
 Sample ID: COL-GW-06
 Collection Date: 9/14/2020 05:50 PM

Work Order: 20091397
 Lab ID: 20091397-18
 Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Styrene	U		0.33	1.0	µg/L	1	9/26/2020 08:31
tert-Butyl alcohol	U		2.4	20	µg/L	1	9/26/2020 08:31
tert-Butylbenzene	U		0.39	1.0	µg/L	1	9/26/2020 08:31
Tetrachloroethene	U		0.39	1.0	µg/L	1	9/26/2020 08:31
Tetrahydrofuran	U		0.73	1.0	µg/L	1	9/26/2020 08:31
Toluene	U		0.45	1.0	µg/L	1	9/26/2020 08:31
trans-1,2-Dichloroethene	2.2		0.48	1.0	µg/L	1	9/26/2020 08:31
trans-1,3-Dichloropropene	U		0.38	1.0	µg/L	1	9/26/2020 08:31
trans-1,4-Dichloro-2-butene	U		0.58	2.0	µg/L	1	9/26/2020 08:31
Trichloroethene	5.7		0.43	1.0	µg/L	1	9/26/2020 08:31
Trichlorofluoromethane	U		0.52	1.0	µg/L	1	9/26/2020 08:31
Vinyl acetate	U		0.83	5.0	µg/L	1	9/26/2020 08:31
Vinyl chloride	2.0		0.53	1.0	µg/L	1	9/26/2020 08:31
Surr: 1,2-Dichloroethane-d4	103			75-120	%REC	1	9/26/2020 08:31
Surr: 1,2-Dichloroethane-d4	84.5			75-120	%REC	5	9/27/2020 19:19
Surr: 4-Bromofluorobenzene	96.0			80-110	%REC	1	9/26/2020 08:31
Surr: 4-Bromofluorobenzene	96.0			80-110	%REC	5	9/27/2020 19:19
Surr: Dibromofluoromethane	96.2			85-115	%REC	1	9/26/2020 08:31
Surr: Dibromofluoromethane	95.7			85-115	%REC	5	9/27/2020 19:19
Surr: Toluene-d8	100			85-110	%REC	1	9/26/2020 08:31
Surr: Toluene-d8	103			85-110	%REC	5	9/27/2020 19:19
ANIONS BY ION CHROMATOGRAPHY							
Method: SW9056A							
Chloride	55		1.6	5.0	mg/L	5	9/22/2020 19:00
Sulfate	53		1.7	5.0	mg/L	5	9/22/2020 19:00
NITROGEN, NITRATE-NITRITE							
Method: E353.2 R2.0							
Nitrogen, Nitrate-Nitrite	U		0.012	0.020	mg/L	1	9/18/2020 14:03
SULFIDE							
Method: SW9034							
Sulfide	U		0.42	1.0	mg/L	1	9/21/2020 15:15

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 30-Sep-20

Client: BB&E, Inc.

Work Order: 20091397

Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R298676		Instrument ID GC5		Method: RSK-175							
MBLK		Sample ID: BLK-R298676			Units: µg/L		Analysis Date: 9/22/2020 01:31 PM				
Client ID:		Run ID: GC5_200922B			SeqNo: 6727100		Prep Date:			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane		U		5.0							
Ethene		U		5.0							
Methane		U		5.0							
LCS		Sample ID: LCS-R298676			Units: µg/L		Analysis Date: 9/22/2020 01:34 PM				
Client ID:		Run ID: GC5_200922B			SeqNo: 6727101		Prep Date:			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane		33	5.0	36.1	0	91.4	75-125	0			
Ethene		31.54	5.0	33.7	0	93.6	75-125	0			
Methane		19.01	5.0	19.2	0	99	75-125	0			
MS		Sample ID: 20091397-04D MS			Units: µg/L		Analysis Date: 9/22/2020 03:01 PM				
Client ID: COL-GW-04		Run ID: GC5_200922B			SeqNo: 6727120		Prep Date:			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane		45.8	5.0	36.1	11.17	95.9	75-125	0			
Ethene		37.65	5.0	33.7	3.29	102	75-125	0			
MS		Sample ID: 20091397-04D MS			Units: µg/L		Analysis Date: 9/22/2020 03:26 PM				
Client ID: COL-GW-04		Run ID: GC5_200922B			SeqNo: 6727131		Prep Date:			DF: 2	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methane		185.9	10	38.4	199.9	-36.5	75-125	0			SO
MSD		Sample ID: 20091397-04D MSD			Units: µg/L		Analysis Date: 9/22/2020 03:03 PM				
Client ID: COL-GW-04		Run ID: GC5_200922B			SeqNo: 6727121		Prep Date:			DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethane		44.42	5.0	36.1	11.17	92.1	75-125	45.8	3.06	20	
Ethene		36.87	5.0	33.7	3.29	99.6	75-125	37.65	2.09	20	
MSD		Sample ID: 20091397-04D MSD			Units: µg/L		Analysis Date: 9/22/2020 03:28 PM				
Client ID: COL-GW-04		Run ID: GC5_200922B			SeqNo: 6727132		Prep Date:			DF: 2	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methane		190	10	38.4	199.9	-25.9	75-125	185.9	2.16	20	SO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: **R298676** Instrument ID **GC5** Method: **RSK-175**

The following samples were analyzed in this batch:

20091397-04D	20091397-05D	20091397-07D
20091397-15D	20091397-18D	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 2 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: 164963		Instrument ID ICPMS3			Method: SW6020B		(Dissolve)		
MBLK Sample ID: MBLK-164963-164963					Units: mg/L		Analysis Date: 9/28/2020 04:19 PM		
Client ID:			Run ID: ICPMS3_200928A			SeqNo: 6742727	Prep Date: 9/28/2020	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit
Iron	U	0.080							Qual
Manganese	U	0.0050							
LCS Sample ID: LCS-164963-164963					Units: mg/L		Analysis Date: 9/28/2020 04:21 PM		
Client ID:			Run ID: ICPMS3_200928A			SeqNo: 6742728	Prep Date: 9/28/2020	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit
Iron	9.985	0.080	10	0	99.8	80-120		0	
Manganese	0.09616	0.0050	0.1	0	96.2	80-120		0	
MS Sample ID: 20091397-04BMS					Units: mg/L		Analysis Date: 9/28/2020 04:24 PM		
Client ID: COL-GW-04			Run ID: ICPMS3_200928A			SeqNo: 6742730	Prep Date: 9/28/2020	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit
Iron	10.87	0.080	10	0.04918	108	75-125		0	
Manganese	0.4187	0.0050	0.1	0.3166	102	75-125		0	
MSD Sample ID: 20091397-04BMSD					Units: mg/L		Analysis Date: 9/28/2020 04:26 PM		
Client ID: COL-GW-04			Run ID: ICPMS3_200928A			SeqNo: 6742731	Prep Date: 9/28/2020	DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit
Iron	10.74	0.080	10	0.04918	107	75-125	10.87	1.28	20
Manganese	0.4184	0.0050	0.1	0.3166	102	75-125	0.4187	0.0686	20

The following samples were analyzed in this batch:

20091397-04B	20091397-05B	20091397-07B
20091397-15B	20091397-18B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID:	R299007a	Instrument ID	VMS11	Method:	SW8260C	Units: µg/L	Analysis Date: 9/26/2020 03:01 AM	
MLBK	Sample ID: VBLKW2-200925-R299007a			Client ID:	Run ID: VMS11_200925A	SeqNo: 6739235	Prep Date:	DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
1,1,1,2-Tetrachloroethane	U	1.0						
1,1,1-Trichloroethane	U	1.0						
1,1,2,2-Tetrachloroethane	U	1.0						
1,1,2-Trichloroethane	U	1.0						
1,1,2-Trichlorotrifluoroethane	U	1.0						
1,1-Dichloroethane	U	1.0						
1,1-Dichloroethene	U	1.0						
1,1-Dichloropropene	U	1.0						
1,2,3-Trichlorobenzene	U	1.0						
1,2,3-Trichloropropane	U	1.0						
1,2,4-Trichlorobenzene	U	1.0						
1,2,4-Trimethylbenzene	U	1.0						
1,2-Dibromo-3-chloropropane	U	1.0						
1,2-Dibromoethane	U	1.0						
1,2-Dichlorobenzene	U	1.0						
1,2-Dichloroethane	U	1.0						
1,2-Dichloropropane	U	1.0						
1,3,5-Trichlorobenzene	U	1.0						
1,3,5-Trimethylbenzene	U	1.0						
1,3-Dichlorobenzene	U	1.0						
1,3-Dichloropropane	U	1.0						
1,4-Dichlorobenzene	U	1.0						
2,2-Dichloropropane	U	1.0						
2-Butanone	U	5.0						
2-Chloroethyl vinyl ether	U	1.0						
2-Chlorotoluene	U	1.0						
2-Hexanone	U	5.0						
2-Methylnaphthalene	U	5.0						
4-Chlorotoluene	U	1.0						
4-Isopropyltoluene	U	1.0						
4-Methyl-2-pentanone	U	1.0						
Acetone	U	10						
Acrolein	U	1.0						
Acrylonitrile	U	1.0						
Benzene	U	1.0						
Benzyl chloride	U	1.0						
Bromobenzene	U	1.0						
Bromochloromethane	U	1.0						
Bromodichloromethane	U	1.0						
Bromoform	U	1.0						
Bromomethane	U	1.0						
Carbon disulfide	U	1.0						

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 4 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299007a	Instrument ID VMS11	Method: SW8260C					
Carbon tetrachloride	U	1.0					
Chlorobenzene	U	1.0					
Chloroethane	U	1.0					
Chloroform	U	1.0					
Chloromethane	U	1.0					
cis-1,2-Dichloroethene	U	1.0					
cis-1,3-Dichloropropene	U	1.0					
Dibromochloromethane	U	1.0					
Dibromomethane	U	1.0					
Dichlorodifluoromethane	U	1.0					
Ethylbenzene	U	1.0					
Hexachlorobutadiene	U	1.0					
Hexachloroethane	U	1.0					
Hexane	U	1.0					
Iodomethane	U	5.0					
Isopropylbenzene	U	1.0					
m,p-Xylene	U	2.0					
Methyl tert-butyl ether	U	1.0					
Methylene chloride	U	5.0					
Naphthalene	U	5.0					
n-Butylbenzene	U	1.0					
n-Propylbenzene	U	1.0					
o-Xylene	U	1.0					
p-Isopropyltoluene	U	1.0					
sec-Butylbenzene	U	1.0					
Styrene	U	1.0					
tert-Butyl alcohol	U	20					
tert-Butylbenzene	U	1.0					
Tetrachloroethene	U	1.0					
Tetrahydrofuran	U	1.0					
Toluene	U	1.0					
trans-1,2-Dichloroethene	U	1.0					
trans-1,3-Dichloropropene	U	1.0					
trans-1,4-Dichloro-2-butene	U	2.0					
Trichloroethene	U	1.0					
Trichlorofluoromethane	U	1.0					
Vinyl acetate	U	5.0					
Vinyl chloride	U	1.0					
Surr: 1,2-Dichloroethane-d4	18.76	0	20	0	93.8	75-120	0
Surr: 4-Bromofluorobenzene	19.72	0	20	0	98.6	80-110	0
Surr: Dibromofluoromethane	19.83	0	20	0	99.2	85-115	0
Surr: Toluene-d8	19.84	0	20	0	99.2	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299007a		Instrument ID VMS11		Method: SW8260C							
LCS	Sample ID: VLCSW1-200925-R299007a			Units: µg/L		Analysis Date: 9/26/2020 01:55 AM					
Client ID:	Run ID: VMS11_200925A			SeqNo: 6739233		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual		
1,1,1,2-Tetrachloroethane	19.11	1.0	20	0	95.6	73-114		0			
1,1,1-Trichloroethane	18.69	1.0	20	0	93.4	75-130		0			
1,1,2,2-Tetrachloroethane	20.52	1.0	20	0	103	75-130		0			
1,1,2-Trichloroethane	19.92	1.0	20	0	99.6	75-125		0			
1,1-Dichloroethane	18.83	1.0	20	0	94.2	68-142		0			
1,1-Dichloroethene	21.07	1.0	20	0	105	70-145		0			
1,1-Dichloropropene	18.01	1.0	20	0	90	75-135		0			
1,2,3-Trichlorobenzene	17.93	1.0	20	0	89.6	70-140		0			
1,2,3-Trichloropropane	19.44	1.0	20	0	97.2	75-125		0			
1,2,4-Trichlorobenzene	18.03	1.0	20	0	90.2	70-135		0			
1,2,4-Trimethylbenzene	17.23	1.0	20	0	86.2	75-130		0			
1,2-Dibromo-3-chloropropane	17.52	1.0	20	0	87.6	60-130		0			
1,2-Dibromoethane	19.76	1.0	20	0	98.8	67-155		0			
1,2-Dichlorobenzene	18.17	1.0	20	0	90.8	70-130		0			
1,2-Dichloroethane	17.59	1.0	20	0	88	78-125		0			
1,2-Dichloropropane	18.44	1.0	20	0	92.2	75-125		0			
1,3,5-Trimethylbenzene	18.51	1.0	20	0	92.6	75-130		0			
1,3-Dichlorobenzene	18.64	1.0	20	0	93.2	75-130		0			
1,3-Dichloropropane	19.26	1.0	20	0	96.3	75-125		0			
1,4-Dichlorobenzene	18.64	1.0	20	0	93.2	75-130		0			
2,2-Dichloropropane	17.69	1.0	20	0	88.4	43-150		0			
2-Butanone	18.83	5.0	20	0	94.2	55-150		0			
2-Chlorotoluene	19.2	1.0	20	0	96	76-117		0			
2-Hexanone	20.84	5.0	20	0	104	60-135		0			
4-Chlorotoluene	18.88	1.0	20	0	94.4	80-125		0			
4-Isopropyltoluene	17.94	1.0	20	0	89.7	61-164		0			
4-Methyl-2-pentanone	27.22	1.0	20	0	136	77-178		0			
Acetone	25.89	10	20	0	129	60-160		0			
Acrylonitrile	18.99	1.0	20	0	95	60-140		0			
Benzene	18.93	1.0	20	0	94.6	70-130		0			
Bromobenzene	19.32	1.0	20	0	96.6	80-125		0			
Bromochloromethane	18.91	1.0	20	0	94.6	72-141		0			
Bromodichloromethane	19.82	1.0	20	0	99.1	75-125		0			
Bromoform	15.54	1.0	20	0	77.7	60-125		0			
Bromomethane	20.86	1.0	20	0	104	30-185		0			
Carbon disulfide	20.16	1.0	20	0	101	60-165		0			
Carbon tetrachloride	19.37	1.0	20	0	96.8	65-140		0			
Chlorobenzene	18.98	1.0	20	0	94.9	80-120		0			
Chloroethane	18.27	1.0	20	0	91.4	31-172		0			
Chloroform	19.53	1.0	20	0	97.6	66-135		0			
Chloromethane	21.95	1.0	20	0	110	46-148		0			
cis-1,2-Dichloroethene	19.05	1.0	20	0	95.2	75-134		0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 6 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299007a	Instrument ID VMS11	Method: SW8260C					
cis-1,3-Dichloropropene	19.14	1.0	20	0	95.7	70-130	0
Dibromochloromethane	18.15	1.0	20	0	90.8	60-115	0
Dibromomethane	20.06	1.0	20	0	100	79-126	0
Dichlorodifluoromethane	21.06	1.0	20	0	105	20-120	0
Ethylbenzene	19.36	1.0	20	0	96.8	76-123	0
Hexachlorobutadiene	16.79	1.0	20	0	84	70-155	0
Hexachloroethane	17.88	1.0	20	0	89.4	50-124	0
Iodomethane	18.42	5.0	20	0	92.1	60-160	0
Isopropylbenzene	17.99	1.0	20	0	90	80-127	0
m,p-Xylene	38.83	2.0	40	0	97.1	75-130	0
Methyl tert-butyl ether	20.28	1.0	20	0	101	68-129	0
Methylene chloride	19.76	5.0	20	0	98.8	72-125	0
Naphthalene	17.75	5.0	20	0	88.8	55-160	0
n-Butylbenzene	17.34	1.0	20	0	86.7	75-145	0
n-Propylbenzene	17.81	1.0	20	0	89	76-116	0
o-Xylene	19.38	1.0	20	0	96.9	76-127	0
p-Isopropyltoluene	17.94	1.0	20	0	89.7	61-164	0
sec-Butylbenzene	18.15	1.0	20	0	90.8	80-134	0
Styrene	17.95	1.0	20	0	89.8	83-137	0
tert-Butyl alcohol	103	20	100	0	103	70-130	0
tert-Butylbenzene	19.08	1.0	20	0	95.4	70-130	0
Tetrachloroethene	18.14	1.0	20	0	90.7	68-166	0
Tetrahydrofuran	18.22	1.0	20	0	91.1	54-139	0
Toluene	18.89	1.0	20	0	94.4	76-125	0
trans-1,2-Dichloroethene	20.88	1.0	20	0	104	80-140	0
trans-1,3-Dichloropropene	18.29	1.0	20	0	91.4	56-132	0
trans-1,4-Dichloro-2-butene	15.27	2.0	20	0	76.4	46-118	0
Trichloroethene	18.69	1.0	20	0	93.4	77-125	0
Trichlorofluoromethane	15.21	1.0	20	0	76	60-140	0
Vinyl chloride	20.03	1.0	20	0	100	50-136	0
Surr: 1,2-Dichloroethane-d4	19.44	0	20	0	97.2	75-120	0
Surr: 4-Bromofluorobenzene	20.18	0	20	0	101	80-110	0
Surr: Dibromofluoromethane	20.65	0	20	0	103	85-115	0
Surr: Toluene-d8	20.63	0	20	0	103	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299007a		Instrument ID VMS11		Method: SW8260C						
MS	Sample ID: 20091397-04A MS			Units: µg/L		Analysis Date: 9/26/2020 11:06 AM				
Client ID: COL-GW-04		Run ID: VMS11_200925A			SeqNo: 6739257		Prep Date:		DF: 5	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
1,1,1,2-Tetrachloroethane		84.65	5.0	100	0	84.6	73-114		0	
1,1,1-Trichloroethane		91.7	5.0	100	0	91.7	75-130		0	
1,1,2,2-Tetrachloroethane		96.15	5.0	100	0	96.2	75-130		0	
1,1,2-Trichloroethane		95.9	5.0	100	0	95.9	75-125		0	
1,1-Dichloroethane		95.3	5.0	100	0	95.3	68-142		0	
1,1-Dichloroethene		112.6	5.0	100	2.1	111	70-145		0	
1,1-Dichloropropene		90.2	5.0	100	0	90.2	75-135		0	
1,2,3-Trichlorobenzene		79.55	5.0	100	0	79.6	70-140		0	
1,2,3-Trichloropropane		91.75	5.0	100	0	91.8	75-125		0	
1,2,4-Trichlorobenzene		80.15	5.0	100	0	80.2	70-135		0	
1,2,4-Trimethylbenzene		82.65	5.0	100	0	82.6	75-130		0	
1,2-Dibromo-3-chloropropane		76.4	5.0	100	0	76.4	60-130		0	
1,2-Dibromoethane		93	5.0	100	0	93	67-155		0	
1,2-Dichlorobenzene		88.3	5.0	100	0	88.3	70-130		0	
1,2-Dichloroethane		88.35	5.0	100	0	88.4	78-125		0	
1,2-Dichloropropane		93.05	5.0	100	0	93	75-125		0	
1,3,5-Trimethylbenzene		88	5.0	100	0	88	75-130		0	
1,3-Dichlorobenzene		90.4	5.0	100	0	90.4	75-130		0	
1,3-Dichloropropane		94.65	5.0	100	0	94.6	75-125		0	
1,4-Dichlorobenzene		90.05	5.0	100	0	90	75-130		0	
2,2-Dichloropropane		77.2	5.0	100	0	77.2	43-150		0	
2-Butanone		94	25	100	0	94	55-150		0	
2-Chlorotoluene		91.7	5.0	100	0	91.7	76-117		0	
2-Hexanone		102.4	25	100	0	102	60-135		0	
4-Chlorotoluene		91.25	5.0	100	0	91.2	80-125		0	
4-Isopropyltoluene		85.3	5.0	100	0	85.3	61-164		0	
4-Methyl-2-pentanone		128.4	5.0	100	0	128	77-178		0	
Acetone		125.8	50	100	0	126	60-160		0	
Acrylonitrile		102.1	5.0	100	0	102	60-140		0	
Benzene		95.65	5.0	100	0	95.6	70-130		0	
Bromobenzene		91.95	5.0	100	0	92	80-125		0	
Bromochloromethane		96.4	5.0	100	0	96.4	72-141		0	
Bromodichloromethane		92.35	5.0	100	0	92.4	75-125		0	
Bromoform		63	5.0	100	0	63	60-125		0	
Bromomethane		93.85	5.0	100	0	93.8	30-185		0	
Carbon disulfide		94.55	5.0	100	0	94.6	60-165		0	
Carbon tetrachloride		88.85	5.0	100	0	88.8	65-140		0	
Chlorobenzene		94.05	5.0	100	0	94	80-120		0	
Chloroethane		96.2	5.0	100	0	96.2	31-172		0	
Chloroform		98.6	5.0	100	0	98.6	66-135		0	
Chloromethane		107.2	5.0	100	0	107	46-148		0	
cis-1,2-Dichloroethene		370.9	5.0	100	266.9	104	75-134		0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 8 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299007a	Instrument ID VMS11	Method: SW8260C					
cis-1,3-Dichloropropene	83.8	5.0	100	0	83.8	70-130	0
Dibromochloromethane	77.4	5.0	100	0	77.4	60-115	0
Dibromomethane	96.9	5.0	100	0	96.9	79-126	0
Dichlorodifluoromethane	103.1	5.0	100	0	103	20-120	0
Ethylbenzene	94.6	5.0	100	0	94.6	76-123	0
Hexachlorobutadiene	68.75	5.0	100	0	68.8	70-155	0
Hexachloroethane	72.7	5.0	100	0	72.7	50-124	0
Iodomethane	87.2	25	100	0	87.2	60-160	0
Isopropylbenzene	88.95	5.0	100	0	89	80-127	0
m,p-Xylene	191.7	10	200	1.6	95	75-130	0
Methyl tert-butyl ether	99	5.0	100	0	99	68-129	0
Methylene chloride	100	25	100	0	100	72-125	0
Naphthalene	84.85	25	100	0	84.8	55-160	0
n-Butylbenzene	78.35	5.0	100	0	78.4	75-145	0
n-Propylbenzene	85.6	5.0	100	0	85.6	76-116	0
o-Xylene	97.3	5.0	100	0	97.3	76-127	0
p-Isopropyltoluene	85.3	5.0	100	0	85.3	61-164	0
sec-Butylbenzene	84.9	5.0	100	0	84.9	80-134	0
Styrene	87.3	5.0	100	0	87.3	83-137	0
tert-Butyl alcohol	528.2	100	500	0	106	70-130	0
tert-Butylbenzene	91.5	5.0	100	0	91.5	70-130	0
Tetrachloroethene	91.4	5.0	100	0	91.4	68-166	0
Tetrahydrofuran	102.4	5.0	100	0	102	54-139	0
Toluene	93.1	5.0	100	0	93.1	76-125	0
trans-1,2-Dichloroethene	111	5.0	100	6.85	104	80-140	0
trans-1,3-Dichloropropene	75.85	5.0	100	0	75.8	56-132	0
trans-1,4-Dichloro-2-butene	51.25	10	100	0	51.2	46-118	0
Trichloroethene	284.2	5.0	100	190.1	94.2	77-125	0
Trichlorofluoromethane	77.45	5.0	100	0	77.4	60-140	0
Vinyl chloride	129.6	5.0	100	28.35	101	50-136	0
Surr: 1,2-Dichloroethane-d4	96.35	0	100	0	96.4	75-120	0
Surr: 4-Bromofluorobenzene	97.95	0	100	0	98	80-110	0
Surr: Dibromofluoromethane	102.1	0	100	0	102	85-115	0
Surr: Toluene-d8	101.6	0	100	0	102	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299007a		Instrument ID VMS11		Method: SW8260C						
MSD	Sample ID: 20091397-04A MSD				Units: µg/L		Analysis Date: 9/26/2020 11:28 AM			
Client ID: COL-GW-04		Run ID: VMS11_200925A			SeqNo: 6739258		Prep Date:		DF: 5	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit
1,1,1,2-Tetrachloroethane		83.35	5.0	100	0	83.4	73-114	84.65	1.55	30
1,1,1-Trichloroethane		94.15	5.0	100	0	94.2	75-130	91.7	2.64	30
1,1,2,2-Tetrachloroethane		96	5.0	100	0	96	75-130	96.15	0.156	30
1,1,2-Trichloroethane		94.15	5.0	100	0	94.2	75-125	95.9	1.84	30
1,1-Dichloroethane		94.8	5.0	100	0	94.8	68-142	95.3	0.526	30
1,1-Dichloroethene		98.2	5.0	100	2.1	96.1	70-145	112.6	13.7	30
1,1-Dichloropropene		97.25	5.0	100	0	97.2	75-135	90.2	7.52	30
1,2,3-Trichlorobenzene		81	5.0	100	0	81	70-140	79.55	1.81	30
1,2,3-Trichloropropane		93.75	5.0	100	0	93.8	75-125	91.75	2.16	30
1,2,4-Trichlorobenzene		82.05	5.0	100	0	82	70-135	80.15	2.34	30
1,2,4-Trimethylbenzene		84.25	5.0	100	0	84.2	75-130	82.65	1.92	30
1,2-Dibromo-3-chloropropane		74.3	5.0	100	0	74.3	60-130	76.4	2.79	30
1,2-Dibromoethane		91.9	5.0	100	0	91.9	67-155	93	1.19	30
1,2-Dichlorobenzene		87.3	5.0	100	0	87.3	70-130	88.3	1.14	30
1,2-Dichloroethane		94.5	5.0	100	0	94.5	78-125	88.35	6.73	30
1,2-Dichloropropane		87.8	5.0	100	0	87.8	75-125	93.05	5.81	30
1,3,5-Trimethylbenzene		88.75	5.0	100	0	88.8	75-130	88	0.849	30
1,3-Dichlorobenzene		91.45	5.0	100	0	91.4	75-130	90.4	1.15	30
1,3-Dichloropropane		93.4	5.0	100	0	93.4	75-125	94.65	1.33	30
1,4-Dichlorobenzene		90.6	5.0	100	0	90.6	75-130	90.05	0.609	30
2,2-Dichloropropane		76.4	5.0	100	0	76.4	43-150	77.2	1.04	30
2-Butanone		92.4	25	100	0	92.4	55-150	94	1.72	30
2-Chlorotoluene		90.05	5.0	100	0	90	76-117	91.7	1.82	30
2-Hexanone		100	25	100	0	100	60-135	102.4	2.37	30
4-Chlorotoluene		90.55	5.0	100	0	90.6	80-125	91.25	0.77	30
4-Isopropyltoluene		84.9	5.0	100	0	84.9	61-164	85.3	0.47	30
4-Methyl-2-pentanone		125	5.0	100	0	125	77-178	128.4	2.68	30
Acetone		102	50	100	0	102	60-160	125.8	20.9	30
Acrylonitrile		84.25	5.0	100	0	84.2	60-140	102.1	19.2	30
Benzene		100.2	5.0	100	0	100	70-130	95.65	4.65	30
Bromobenzene		92.95	5.0	100	0	93	80-125	91.95	1.08	30
Bromoform		62.4	5.0	100	0	62.4	60-125	63	0.957	30
Bromomethane		99.25	5.0	100	0	99.2	30-185	93.85	5.59	30
Carbon disulfide		87.55	5.0	100	0	87.6	60-165	94.55	7.69	30
Carbon tetrachloride		91.05	5.0	100	0	91	65-140	88.85	2.45	30
Chlorobenzene		93.5	5.0	100	0	93.5	80-120	94.05	0.587	30
Chloroethane		91.65	5.0	100	0	91.6	31-172	96.2	4.84	30
Chloroform		98.5	5.0	100	0	98.5	66-135	98.6	0.101	30
Chloromethane		106.2	5.0	100	0	106	46-148	107.2	0.891	30
cis-1,2-Dichloroethene		363	5.0	100	266.9	96	75-134	370.9	2.17	30

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 10 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299007a	Instrument ID VMS11	Method: SW8260C							
cis-1,3-Dichloropropene	81.05	5.0	100	0	81	70-130	83.8	3.34	30
Dibromochloromethane	76.1	5.0	100	0	76.1	60-115	77.4	1.69	30
Dibromomethane	95.45	5.0	100	0	95.4	79-126	96.9	1.51	30
Dichlorodifluoromethane	102.8	5.0	100	0	103	20-120	103.1	0.291	30
Ethylbenzene	94.65	5.0	100	0	94.6	76-123	94.6	0.0528	30
Hexachlorobutadiene	73.95	5.0	100	0	74	70-155	68.75	7.29	30
Hexachloroethane	70.2	5.0	100	0	70.2	50-124	72.7	3.5	30
Iodomethane	92.6	25	100	0	92.6	60-160	87.2	6.01	30
Isopropylbenzene	88.1	5.0	100	0	88.1	80-127	88.95	0.96	30
m,p-Xylene	192.2	10	200	1.6	95.3	75-130	191.7	0.26	30
Methyl tert-butyl ether	89.15	5.0	100	0	89.2	68-129	99	10.5	30
Methylene chloride	85.95	25	100	0	86	72-125	100	15.1	30
Naphthalene	82.9	25	100	0	82.9	55-160	84.85	2.32	30
n-Butylbenzene	79	5.0	100	0	79	75-145	78.35	0.826	30
n-Propylbenzene	86.1	5.0	100	0	86.1	76-116	85.6	0.582	30
o-Xylene	95.4	5.0	100	0	95.4	76-127	97.3	1.97	30
p-Isopropyltoluene	84.9	5.0	100	0	84.9	61-164	85.3	0.47	30
sec-Butylbenzene	85.4	5.0	100	0	85.4	80-134	84.9	0.587	30
Styrene	87.05	5.0	100	0	87	83-137	87.3	0.287	30
tert-Butyl alcohol	487	100	500	0	97.4	70-130	528.2	8.12	30
tert-Butylbenzene	91.65	5.0	100	0	91.6	70-130	91.5	0.164	30
Tetrachloroethene	90.9	5.0	100	0	90.9	68-166	91.4	0.549	30
Tetrahydrofuran	95.95	5.0	100	0	96	54-139	102.4	6.45	30
Toluene	92.9	5.0	100	0	92.9	76-125	93.1	0.215	30
trans-1,2-Dichloroethene	100.5	5.0	100	6.85	93.6	80-140	111	9.93	30
trans-1,3-Dichloropropene	75.4	5.0	100	0	75.4	56-132	75.85	0.595	30
trans-1,4-Dichloro-2-butene	52.8	10	100	0	52.8	46-118	51.25	2.98	30
Trichloroethene	275.5	5.0	100	190.1	85.4	77-125	284.2	3.13	30
Trichlorofluoromethane	76.15	5.0	100	0	76.2	60-140	77.45	1.69	30
Vinyl chloride	126.1	5.0	100	28.35	97.8	50-136	129.6	2.7	30
Surr: 1,2-Dichloroethane-d4	100.5	0	100	0	100	75-120	96.35	4.22	30
Surr: 4-Bromofluorobenzene	100.4	0	100	0	100	80-110	97.95	2.42	30
Surr: Dibromofluoromethane	103.1	0	100	0	103	85-115	102.1	0.975	30
Surr: Toluene-d8	101.4	0	100	0	101	85-110	101.6	0.246	30

The following samples were analyzed in this batch:

20091397-01A	20091397-02A	20091397-03A
20091397-04A	20091397-05A	20091397-16A
20091397-17A	20091397-18A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A	Instrument ID VMS6	Method: SW8260C							
MBLK	Sample ID: VBLKW1-200927-R299018A			Units: µg/L		Analysis Date: 9/27/2020 12:52 PM			
Client ID:	Run ID: VMS6_200927A			SeqNo: 6741787	Prep Date:	DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1,1,1,2-Tetrachloroethane	U	1.0							
1,1,1-Trichloroethane	U	1.0							
1,1,2,2-Tetrachloroethane	U	1.0							
1,1,2-Trichloroethane	U	1.0							
1,1,2-Trichlorotrifluoroethane	U	1.0							
1,1-Dichloroethane	U	1.0							
1,1-Dichloroethene	U	1.0							
1,1-Dichloropropene	U	1.0							
1,2,3-Trichlorobenzene	U	1.0							
1,2,3-Trichloropropane	U	1.0							
1,2,4-Trichlorobenzene	U	1.0							
1,2,4-Trimethylbenzene	U	1.0							
1,2-Dibromo-3-chloropropane	U	1.0							
1,2-Dibromoethane	U	1.0							
1,2-Dichlorobenzene	U	1.0							
1,2-Dichloroethane	U	1.0							
1,2-Dichloropropane	U	1.0							
1,3,5-Trichlorobenzene	U	1.0							
1,3,5-Trimethylbenzene	U	1.0							
1,3-Dichlorobenzene	U	1.0							
1,3-Dichloropropane	U	1.0							
1,4-Dichlorobenzene	U	1.0							
2,2-Dichloropropane	U	1.0							
2-Butanone	U	5.0							
2-Chloroethyl vinyl ether	U	1.0							
2-Chlorotoluene	U	1.0							
2-Hexanone	U	5.0							
2-Methylnaphthalene	U	5.0							
4-Chlorotoluene	U	1.0							
4-Isopropyltoluene	U	1.0							
4-Methyl-2-pentanone	U	1.0							
Acetone	U	10							
Acrolein	U	1.0							
Acrylonitrile	U	1.0							
Benzene	U	1.0							
Benzyl chloride	U	1.0							
Bromobenzene	U	1.0							
Bromochloromethane	U	1.0							
Bromodichloromethane	U	1.0							
Bromoform	U	1.0							
Bromomethane	U	1.0							
Carbon disulfide	U	1.0							

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 12 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A	Instrument ID VMS6	Method: SW8260C					
Carbon tetrachloride	U	1.0					
Chlorobenzene	U	1.0					
Chloroethane	U	1.0					
Chloroform	U	1.0					
Chloromethane	U	1.0					
cis-1,2-Dichloroethene	U	1.0					
cis-1,3-Dichloropropene	U	1.0					
Dibromochloromethane	U	1.0					
Dibromomethane	U	1.0					
Dichlorodifluoromethane	U	1.0					
Ethylbenzene	U	1.0					
Hexachlorobutadiene	U	1.0					
Hexachloroethane	U	1.0					
Hexane	U	1.0					
Iodomethane	U	5.0					
Isopropylbenzene	U	1.0					
m,p-Xylene	U	2.0					
Methyl tert-butyl ether	U	1.0					
Methylene chloride	U	5.0					
Naphthalene	U	5.0					
n-Butylbenzene	U	1.0					
n-Propylbenzene	U	1.0					
o-Xylene	U	1.0					
p-Isopropyltoluene	U	1.0					
sec-Butylbenzene	U	1.0					
Styrene	U	1.0					
tert-Butyl alcohol	U	20					
tert-Butylbenzene	U	1.0					
Tetrachloroethene	U	1.0					
Tetrahydrofuran	U	1.0					
Toluene	U	1.0					
trans-1,2-Dichloroethene	U	1.0					
trans-1,3-Dichloropropene	U	1.0					
trans-1,4-Dichloro-2-butene	U	2.0					
Trichloroethene	U	1.0					
Trichlorofluoromethane	U	1.0					
Vinyl acetate	U	5.0					
Vinyl chloride	U	1.0					
Surr: 1,2-Dichloroethane-d4	19.9	0	20	0	99.5	75-120	0
Surr: 4-Bromofluorobenzene	19.96	0	20	0	99.8	80-110	0
Surr: Dibromofluoromethane	20.08	0	20	0	100	85-115	0
Surr: Toluene-d8	20.28	0	20	0	101	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A		Instrument ID VMS6		Method: SW8260C							
LCS	Sample ID: VLCSW1-200927-R299018A			Units: µg/L		Analysis Date: 9/27/2020 12:03 PM					
Client ID:	Run ID: VMS6_200927A			SeqNo: 6741786		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual		
1,1,1,2-Tetrachloroethane	18.47	1.0	20	0	92.4	73-114	0	0			
1,1,1-Trichloroethane	21.58	1.0	20	0	108	75-130	0	0			
1,1,2,2-Tetrachloroethane	21.64	1.0	20	0	108	75-130	0	0			
1,1,2-Trichloroethane	21.14	1.0	20	0	106	75-125	0	0			
1,1-Dichloroethane	22.12	1.0	20	0	111	68-142	0	0			
1,1-Dichloroethene	22.09	1.0	20	0	110	70-145	0	0			
1,1-Dichloropropene	20.32	1.0	20	0	102	75-135	0	0			
1,2,3-Trichlorobenzene	23.59	1.0	20	0	118	70-140	0	0			
1,2,3-Trichloropropane	20.55	1.0	20	0	103	75-125	0	0			
1,2,4-Trichlorobenzene	23.56	1.0	20	0	118	70-135	0	0			
1,2,4-Trimethylbenzene	19.17	1.0	20	0	95.8	75-130	0	0			
1,2-Dibromo-3-chloropropane	20.58	1.0	20	0	103	60-130	0	0			
1,2-Dibromoethane	21.44	1.0	20	0	107	67-155	0	0			
1,2-Dichlorobenzene	22.49	1.0	20	0	112	70-130	0	0			
1,2-Dichloroethane	21.92	1.0	20	0	110	78-125	0	0			
1,2-Dichloropropane	21.84	1.0	20	0	109	75-125	0	0			
1,3,5-Trimethylbenzene	19.35	1.0	20	0	96.8	75-130	0	0			
1,3-Dichlorobenzene	21.83	1.0	20	0	109	75-130	0	0			
1,3-Dichloropropane	21.08	1.0	20	0	105	75-125	0	0			
1,4-Dichlorobenzene	21.86	1.0	20	0	109	75-130	0	0			
2,2-Dichloropropane	22.94	1.0	20	0	115	43-150	0	0			
2-Butanone	19.66	5.0	20	0	98.3	55-150	0	0			
2-Chlorotoluene	20.96	1.0	20	0	105	76-117	0	0			
2-Hexanone	19.91	5.0	20	0	99.6	60-135	0	0			
4-Chlorotoluene	19.27	1.0	20	0	96.4	80-125	0	0			
4-Isopropyltoluene	20.26	1.0	20	0	101	61-164	0	0			
4-Methyl-2-pentanone	28.17	1.0	20	0	141	77-178	0	0			
Acetone	17.01	10	20	0	85	60-160	0	0			
Acrylonitrile	19.4	1.0	20	0	97	60-140	0	0			
Benzene	22.03	1.0	20	0	110	70-130	0	0			
Bromobenzene	20.98	1.0	20	0	105	80-125	0	0			
Bromochloromethane	20.53	1.0	20	0	103	72-141	0	0			
Bromodichloromethane	19.99	1.0	20	0	100	75-125	0	0			
Bromoform	18.55	1.0	20	0	92.8	60-125	0	0			
Bromomethane	25.65	1.0	20	0	128	30-185	0	0			
Carbon disulfide	23.26	1.0	20	0	116	60-165	0	0			
Carbon tetrachloride	19.58	1.0	20	0	97.9	65-140	0	0			
Chlorobenzene	20.87	1.0	20	0	104	80-120	0	0			
Chloroethane	21.8	1.0	20	0	109	31-172	0	0			
Chloroform	20.54	1.0	20	0	103	66-135	0	0			
Chloromethane	25.16	1.0	20	0	126	46-148	0	0			
cis-1,2-Dichloroethene	20.45	1.0	20	0	102	75-134	0	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 14 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A	Instrument ID VMS6	Method: SW8260C					
cis-1,3-Dichloropropene	21.84	1.0	20	0	109	70-130	0
Dibromochloromethane	18.22	1.0	20	0	91.1	60-115	0
Dibromomethane	21.57	1.0	20	0	108	79-126	0
Dichlorodifluoromethane	26.86	1.0	20	0	134	20-120	0
Ethylbenzene	20.67	1.0	20	0	103	76-123	0
Hexachlorobutadiene	24.76	1.0	20	0	124	70-155	0
Hexachloroethane	18.87	1.0	20	0	94.4	50-124	0
Iodomethane	22.25	5.0	20	0	111	60-160	0
Isopropylbenzene	19.08	1.0	20	0	95.4	80-127	0
m,p-Xylene	38.43	2.0	40	0	96.1	75-130	0
Methyl tert-butyl ether	21.83	1.0	20	0	109	68-129	0
Methylene chloride	21.33	5.0	20	0	107	72-125	0
Naphthalene	23.57	5.0	20	0	118	55-160	0
n-Butylbenzene	20.41	1.0	20	0	102	75-145	0
n-Propylbenzene	19.38	1.0	20	0	96.9	76-116	0
o-Xylene	19.5	1.0	20	0	97.5	76-127	0
p-Isopropyltoluene	20.26	1.0	20	0	101	61-164	0
sec-Butylbenzene	19.74	1.0	20	0	98.7	80-134	0
Styrene	21.53	1.0	20	0	108	83-137	0
tert-Butyl alcohol	103.9	20	100	0	104	70-130	0
tert-Butylbenzene	20.43	1.0	20	0	102	70-130	0
Tetrachloroethene	22.78	1.0	20	0	114	68-166	0
Tetrahydrofuran	16.63	1.0	20	0	83.2	54-139	0
Toluene	20.91	1.0	20	0	105	76-125	0
trans-1,2-Dichloroethene	22.05	1.0	20	0	110	80-140	0
trans-1,3-Dichloropropene	20.76	1.0	20	0	104	56-132	0
trans-1,4-Dichloro-2-butene	17.26	2.0	20	0	86.3	46-118	0
Trichloroethene	22.76	1.0	20	0	114	77-125	0
Trichlorofluoromethane	15.86	1.0	20	0	79.3	60-140	0
Vinyl chloride	23.81	1.0	20	0	119	50-136	0
Surr: 1,2-Dichloroethane-d4	19.86	0	20	0	99.3	75-120	0
Surr: 4-Bromofluorobenzene	20.06	0	20	0	100	80-110	0
Surr: Dibromofluoromethane	20.08	0	20	0	100	85-115	0
Surr: Toluene-d8	20.05	0	20	0	100	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A		Instrument ID VMS6		Method: SW8260C										
MS	Sample ID: 20091397-04A MS			Units: µg/L		Analysis Date: 9/27/2020 09:19 PM								
Client ID: COL-GW-04		Run ID: VMS6_200927A			SeqNo: 6741808		Prep Date:		DF: 1					
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
1,1,1,2-Tetrachloroethane		18.87	1.0	20	0	94.4	73-114		0					
1,1,1-Trichloroethane		22.76	1.0	20	0	114	75-130		0					
1,1,2,2-Tetrachloroethane		14.63	1.0	20	0	73.2	75-130		0		S			
1,1,2-Trichloroethane		17.83	1.0	20	0	89.2	75-125		0					
1,1-Dichloroethane		23.11	1.0	20	0	116	68-142		0					
1,1-Dichloroethene		28.48	1.0	20	2.86	128	70-145		0					
1,1-Dichloropropene		22.42	1.0	20	0	112	75-135		0					
1,2,3-Trichlorobenzene		15.39	1.0	20	0	77	70-140		0					
1,2,3-Trichloropropane		14.28	1.0	20	0	71.4	75-125		0		S			
1,2,4-Trichlorobenzene		18.31	1.0	20	0	91.6	70-135		0					
1,2,4-Trimethylbenzene		20.06	1.0	20	0	100	75-130		0					
1,2-Dibromo-3-chloropropane		13.62	1.0	20	0	68.1	60-130		0					
1,2-Dibromoethane		15.74	1.0	20	0	78.7	67-155		0					
1,2-Dichlorobenzene		21.05	1.0	20	0	105	70-130		0					
1,2-Dichloroethane		18.58	1.0	20	0	92.9	78-125		0					
1,2-Dichloropropane		22.16	1.0	20	0	111	75-125		0					
1,3,5-Trimethylbenzene		20.82	1.0	20	0	104	75-130		0					
1,3-Dichlorobenzene		23.45	1.0	20	0	117	75-130		0					
1,3-Dichloropropane		16.89	1.0	20	0	84.4	75-125		0					
1,4-Dichlorobenzene		22.75	1.0	20	0	114	75-130		0					
2,2-Dichloropropane		21.4	1.0	20	0	107	43-150		0					
2-Butanone		12.87	5.0	20	0	64.4	55-150		0					
2-Chlorotoluene		22.06	1.0	20	0	110	76-117		0					
2-Hexanone		13	5.0	20	0	65	60-135		0					
4-Chlorotoluene		19.97	1.0	20	0	99.8	80-125		0					
4-Isopropyltoluene		22.72	1.0	20	0	114	61-164		0					
4-Methyl-2-pentanone		26.58	1.0	20	0	133	77-178		0					
Acetone		21.61	10	20	0	108	60-160		0					
Acrylonitrile		12.76	1.0	20	0	63.8	60-140		0					
Benzene		22.74	1.0	20	0	114	70-130		0					
Bromobenzene		19.88	1.0	20	0	99.4	80-125		0					
Bromoform		17.61	1.0	20	0	88	72-141		0					
Bromomethane		18.87	1.0	20	0	94.4	75-125		0					
Carbon disulfide		25.19	1.0	20	0	126	60-165		0					
Carbon tetrachloride		21.46	1.0	20	0	107	65-140		0					
Chlorobenzene		22.23	1.0	20	0	111	80-120		0					
Chloroethane		25.87	1.0	20	0	129	31-172		0					
Chloroform		21.92	1.0	20	0	110	66-135		0					
Chloromethane		20.42	1.0	20	0	102	46-148		0					
cis-1,2-Dichloroethene		277	1.0	20	257.4	98.2	75-134		0		EO			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 16 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A	Instrument ID VMS6	Method: SW8260C					
cis-1,3-Dichloropropene	18.72	1.0	20	0	93.6	70-130	0
Dibromochloromethane	14.79	1.0	20	0	74	60-115	0
Dibromomethane	17.27	1.0	20	0	86.4	79-126	0
Dichlorodifluoromethane	29.68	1.0	20	0	148	20-120	0
Ethylbenzene	22.36	1.0	20	0	112	76-123	0
Hexachlorobutadiene	24.8	1.0	20	0	124	70-155	0
Hexachloroethane	23.81	1.0	20	0	119	50-124	0
Iodomethane	19.94	5.0	20	0	99.7	60-160	0
Isopropylbenzene	20.82	1.0	20	0	104	80-127	0
m,p-Xylene	41.26	2.0	40	0	103	75-130	0
Methyl tert-butyl ether	17.18	1.0	20	0	85.9	68-129	0
Methylene chloride	20.96	5.0	20	0	105	72-125	0
Naphthalene	13	5.0	20	0	65	55-160	0
n-Butylbenzene	21.55	1.0	20	0	108	75-145	0
n-Propylbenzene	20.2	1.0	20	0	101	76-116	0
o-Xylene	20.62	1.0	20	0	103	76-127	0
p-Isopropyltoluene	22.72	1.0	20	0	114	61-164	0
sec-Butylbenzene	21.14	1.0	20	0	106	80-134	0
Styrene	21.83	1.0	20	0	109	83-137	0
tert-Butyl alcohol	84.23	20	100	0	84.2	70-130	0
tert-Butylbenzene	22.2	1.0	20	0	111	70-130	0
Tetrachloroethene	22.7	1.0	20	0	114	68-166	0
Tetrahydrofuran	11.36	1.0	20	0	56.8	54-139	0
Toluene	22.32	1.0	20	0	112	76-125	0
trans-1,2-Dichloroethene	33.13	1.0	20	9.01	121	80-140	0
trans-1,3-Dichloropropene	15.62	1.0	20	0	78.1	56-132	0
trans-1,4-Dichloro-2-butene	8.23	2.0	20	0	41.2	46-118	0
Trichloroethene	283.6	1.0	20	237.5	231	77-125	0
Trichlorofluoromethane	18.55	1.0	20	0	92.8	60-140	0
Vinyl chloride	54.11	1.0	20	32.16	110	50-136	0
<i>Surr: 1,2-Dichloroethane-d4</i>	15.96	0	20	0	79.8	75-120	0
<i>Surr: 4-Bromofluorobenzene</i>	19.22	0	20	0	96.1	80-110	0
<i>Surr: Dibromofluoromethane</i>	19.09	0	20	0	95.4	85-115	0
<i>Surr: Toluene-d8</i>	20.05	0	20	0	100	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A		Instrument ID VMS6		Method: SW8260C						
MSD	Sample ID: 20091397-04A MSD			Units: µg/L		Analysis Date: 9/27/2020 09:43 PM				
Client ID: COL-GW-04		Run ID: VMS6_200927A			SeqNo: 6741809		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.82	1.0	20	0	94.1	73-114	18.87	0.265	30	
1,1,1-Trichloroethane	22	1.0	20	0	110	75-130	22.76	3.4	30	
1,1,2,2-Tetrachloroethane	16.66	1.0	20	0	83.3	75-130	14.63	13	30	
1,1,2-Trichloroethane	19.36	1.0	20	0	96.8	75-125	17.83	8.23	30	
1,1-Dichloroethane	22.05	1.0	20	0	110	68-142	23.11	4.69	30	
1,1-Dichloroethene	26.91	1.0	20	2.86	120	70-145	28.48	5.67	30	
1,1-Dichloropropene	21.78	1.0	20	0	109	75-135	22.42	2.9	30	
1,2,3-Trichlorobenzene	17.59	1.0	20	0	88	70-140	15.39	13.3	30	
1,2,3-Trichloropropane	16.47	1.0	20	0	82.4	75-125	14.28	14.2	30	
1,2,4-Trichlorobenzene	20.18	1.0	20	0	101	70-135	18.31	9.72	30	
1,2,4-Trimethylbenzene	19.99	1.0	20	0	100	75-130	20.06	0.35	30	
1,2-Dibromo-3-chloropropane	14.26	1.0	20	0	71.3	60-130	13.62	4.59	30	
1,2-Dibromoethane	18.06	1.0	20	0	90.3	67-155	15.74	13.7	30	
1,2-Dichlorobenzene	21.12	1.0	20	0	106	70-130	21.05	0.332	30	
1,2-Dichloroethane	19.49	1.0	20	0	97.4	78-125	18.58	4.78	30	
1,2-Dichloropropane	21.49	1.0	20	0	107	75-125	22.16	3.07	30	
1,3,5-Trimethylbenzene	20.42	1.0	20	0	102	75-130	20.82	1.94	30	
1,3-Dichlorobenzene	22.46	1.0	20	0	112	75-130	23.45	4.31	30	
1,3-Dichloropropane	18.59	1.0	20	0	93	75-125	16.89	9.58	30	
1,4-Dichlorobenzene	21.72	1.0	20	0	109	75-130	22.75	4.63	30	
2,2-Dichloropropane	20.18	1.0	20	0	101	43-150	21.4	5.87	30	
2-Butanone	15.96	5.0	20	0	79.8	55-150	12.87	21.4	30	
2-Chlorotoluene	21.91	1.0	20	0	110	76-117	22.06	0.682	30	
2-Hexanone	15.65	5.0	20	0	78.2	60-135	13	18.5	30	
4-Chlorotoluene	20.12	1.0	20	0	101	80-125	19.97	0.748	30	
4-Isopropyltoluene	20.72	1.0	20	0	104	61-164	22.72	9.21	30	
4-Methyl-2-pentanone	23.6	1.0	20	0	118	77-178	26.58	11.9	30	
Acetone	14.08	10	20	0	70.4	60-160	21.61	42.2	30	R
Acrylonitrile	14.25	1.0	20	0	71.2	60-140	12.76	11	30	
Benzene	21.81	1.0	20	0	109	70-130	22.74	4.18	30	
Bromobenzene	20.71	1.0	20	0	104	80-125	19.88	4.09	30	
Bromochloromethane	17.82	1.0	20	0	89.1	72-141	17.61	1.19	30	
Bromodichloromethane	18.27	1.0	20	0	91.4	75-125	18.87	3.23	30	
Bromoform	14.1	1.0	20	0	70.5	60-125	12.98	8.27	30	
Bromomethane	18.69	1.0	20	0	93.4	30-185	17.5	6.58	30	
Carbon disulfide	24.35	1.0	20	0	122	60-165	25.19	3.39	30	
Carbon tetrachloride	21.29	1.0	20	0	106	65-140	21.46	0.795	30	
Chlorobenzene	21.61	1.0	20	0	108	80-120	22.23	2.83	30	
Chloroethane	22.38	1.0	20	0	112	31-172	25.87	14.5	30	
Chloroform	20.52	1.0	20	0	103	66-135	21.92	6.6	30	
Chloromethane	18	1.0	20	0	90	46-148	20.42	12.6	30	
cis-1,2-Dichloroethene	268.8	1.0	20	257.4	57.3	75-134	277	3	30	SEO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 18 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299018A	Instrument ID VMS6	Method: SW8260C							
cis-1,3-Dichloropropene	18.89	1.0	20	0	94.4	70-130	18.72	0.904	30
Dibromochloromethane	16.07	1.0	20	0	80.4	60-115	14.79	8.3	30
Dibromomethane	18.06	1.0	20	0	90.3	79-126	17.27	4.47	30
Dichlorodifluoromethane	28.17	1.0	20	0	141	20-120	29.68	5.22	30
Ethylbenzene	21.89	1.0	20	0	109	76-123	22.36	2.12	30
Hexachlorobutadiene	24.94	1.0	20	0	125	70-155	24.8	0.563	30
Hexachloroethane	21.81	1.0	20	0	109	50-124	23.81	8.77	30
Iodomethane	17.7	5.0	20	0	88.5	60-160	19.94	11.9	30
Isopropylbenzene	20.37	1.0	20	0	102	80-127	20.82	2.18	30
m,p-Xylene	40.31	2.0	40	0	101	75-130	41.26	2.33	30
Methyl tert-butyl ether	17.99	1.0	20	0	90	68-129	17.18	4.61	30
Methylene chloride	20.08	5.0	20	0	100	72-125	20.96	4.29	30
Naphthalene	16.68	5.0	20	0	83.4	55-160	13	24.8	30
n-Butylbenzene	20.19	1.0	20	0	101	75-145	21.55	6.52	30
n-Propylbenzene	19.62	1.0	20	0	98.1	76-116	20.2	2.91	30
o-Xylene	20.11	1.0	20	0	101	76-127	20.62	2.5	30
p-Isopropyltoluene	20.72	1.0	20	0	104	61-164	22.72	9.21	30
sec-Butylbenzene	20.69	1.0	20	0	103	80-134	21.14	2.15	30
Styrene	21.75	1.0	20	0	109	83-137	21.83	0.367	30
tert-Butyl alcohol	89.25	20	100	0	89.2	70-130	84.23	5.79	30
tert-Butylbenzene	21.42	1.0	20	0	107	70-130	22.2	3.58	30
Tetrachloroethene	24.03	1.0	20	0	120	68-166	22.7	5.69	30
Tetrahydrofuran	12.12	1.0	20	0	60.6	54-139	11.36	6.47	30
Toluene	21.82	1.0	20	0	109	76-125	22.32	2.27	30
trans-1,2-Dichloroethene	31	1.0	20	9.01	110	80-140	33.13	6.64	30
trans-1,3-Dichloropropene	16.88	1.0	20	0	84.4	56-132	15.62	7.75	30
trans-1,4-Dichloro-2-butene	8.35	2.0	20	0	41.8	46-118	8.23	1.45	30
Trichloroethene	288.1	1.0	20	237.5	253	77-125	283.6	1.57	30 SEO
Trichlorofluoromethane	17.77	1.0	20	0	88.8	60-140	18.55	4.3	30
Vinyl chloride	51.59	1.0	20	32.16	97.2	50-136	54.11	4.77	30
Surr: 1,2-Dichloroethane-d4	17.87	0	20	0	89.4	75-120	15.96	11.3	30
Surr: 4-Bromofluorobenzene	19.7	0	20	0	98.5	80-110	19.22	2.47	30
Surr: Dibromofluoromethane	19.84	0	20	0	99.2	85-115	19.09	3.85	30
Surr: Toluene-d8	19.81	0	20	0	99	85-110	20.05	1.2	30

The following samples were analyzed in this batch:

20091397-04A	20091397-05A	20091397-06A
20091397-07A	20091397-08A	20091397-09A
20091397-10A	20091397-18A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299038a		Instrument ID VMS9		Method: SW8260B						
MBLK		Sample ID: VBLKW3-200927-R299038a					Units: µg/L		Analysis Date: 9/27/2020 08:53 AM	
Client ID:			Run ID: VMS9_200927A			SeqNo: 6740516		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	U	1.0								
Surr: Toluene-d8	8.67	0	10	0	86.7	74-124		0		
LCS		Sample ID: VLCSW2-200927-R299038a					Units: µg/L		Analysis Date: 9/27/2020 08:01 AM	
Client ID:			Run ID: VMS9_200927A			SeqNo: 6740513		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	37.43	1.0	40	0	93.6	70-130		0		
Surr: Toluene-d8	8.8	0	10	0	88	74-124		0		
MS		Sample ID: 20091397-04A MS					Units: µg/L		Analysis Date: 9/27/2020 10:59 AM	
Client ID: COL-GW-04			Run ID: VMS9_200927A			SeqNo: 6740534		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	37.46	1.0	40	0	93.6	70-130		0		
Surr: Toluene-d8	8.51	0	10	0	85.1	74-124		0		
MSD		Sample ID: 20091397-04A MSD					Units: µg/L		Analysis Date: 9/27/2020 11:15 AM	
Client ID: COL-GW-04			Run ID: VMS9_200927A			SeqNo: 6740537		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	40.08	1.0	40	0	100	70-130	37.46	6.76	30	
Surr: Toluene-d8	9.02	0	10	0	90.2	74-124	8.51	5.82	30	
The following samples were analyzed in this batch:				20091397-04A	20091397-05A	20091397-06B				
				20091397-07A	20091397-15A	20091397-18A				

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299043A		Instrument ID VMS11		Method: SW8260C						
MBLK	Sample ID: VBLKW3-200925-R299043A			Units: µg/L		Analysis Date: 9/26/2020 02:24 PM				
Client ID:	Run ID: VMS11_200925B		SeqNo: 6740658		Prep Date:	DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	U	1.0								
Trichloroethene	U	1.0								
Surr: 1,2-Dichloroethane-d4	20.05	0	20	0	100	75-120		0		
Surr: 4-Bromofluorobenzene	19.83	0	20	0	99.2	80-110		0		
Surr: Dibromofluoromethane	19.74	0	20	0	98.7	85-115		0		
Surr: Toluene-d8	20.08	0	20	0	100	85-110		0		
LCS	Sample ID: VLCSW2-200925-R299043A			Units: µg/L		Analysis Date: 9/26/2020 01:18 PM				
Client ID:	Run ID: VMS11_200925B		SeqNo: 6740657		Prep Date:	DF: 1				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	19.94	1.0	20	0	99.7	75-134		0		
Trichloroethene	18.18	1.0	20	0	90.9	77-125		0		
Surr: 1,2-Dichloroethane-d4	19.05	0	20	0	95.2	75-120		0		
Surr: 4-Bromofluorobenzene	20.57	0	20	0	103	80-110		0		
Surr: Dibromofluoromethane	19.73	0	20	0	98.6	85-115		0		
Surr: Toluene-d8	20.85	0	20	0	104	85-110		0		
MS	Sample ID: 20091397-05A MS			Units: µg/L		Analysis Date: 9/26/2020 10:34 PM				
Client ID: COL-GW-05	Run ID: VMS11_200925B		SeqNo: 6740679		Prep Date:	DF: 5				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	342.1	5.0	100	301	41.2	75-134		0		S
Trichloroethene	305.2	5.0	100	239	66.2	77-125		0		S
Surr: 1,2-Dichloroethane-d4	98.7	0	100	0	98.7	75-120		0		
Surr: 4-Bromofluorobenzene	99.5	0	100	0	99.5	80-110		0		
Surr: Dibromofluoromethane	98.3	0	100	0	98.3	85-115		0		
Surr: Toluene-d8	101.6	0	100	0	102	85-110		0		
MSD	Sample ID: 20091397-05A MSD			Units: µg/L		Analysis Date: 9/26/2020 10:56 PM				
Client ID: COL-GW-05	Run ID: VMS11_200925B		SeqNo: 6740680		Prep Date:	DF: 5				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	395	5.0	100	301	94	75-134	342.1	14.3	30	
Trichloroethene	326	5.0	100	239	86.9	77-125	305.2	6.56	30	
Surr: 1,2-Dichloroethane-d4	95.55	0	100	0	95.6	75-120	98.7	3.24	30	
Surr: 4-Bromofluorobenzene	100.8	0	100	0	101	80-110	99.5	1.25	30	
Surr: Dibromofluoromethane	101.1	0	100	0	101	85-115	98.3	2.81	30	
Surr: Toluene-d8	101.4	0	100	0	101	85-110	101.6	0.296	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299043A	Instrument ID VMS11	Method: SW8260C
The following samples were analyzed in this batch:		
	20091397-05A	20091397-06A
	20091397-08A	20091397-09A
	20091397-11A	20091397-12A
	20091397-14A	20091397-15A
		20091397-07A
		20091397-10A
		20091397-13A
		20091397-18A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 22 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083	Instrument ID VMS7	Method: SW8260C		Analysis Date: 9/28/2020 01:34 PM				
MBLK	Sample ID: VBLKW1-200928-R299083	Units: µg/L		Analysis Date: 9/28/2020 01:34 PM				
Client ID:	Run ID: VMS7_200928A			SeqNo: 6744861	Prep Date:	DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD Limit Qual
1,1,1,2-Tetrachloroethane	U	1.0						
1,1,1-Trichloroethane	U	1.0						
1,1,2,2-Tetrachloroethane	U	1.0						
1,1,2-Trichloroethane	U	1.0						
1,1,2-Trichlorotrifluoroethane	U	1.0						
1,1-Dichloroethane	U	1.0						
1,1-Dichloroethene	U	1.0						
1,1-Dichloropropene	U	1.0						
1,2,3-Trichlorobenzene	U	1.0						
1,2,3-Trichloropropane	U	1.0						
1,2,4-Trichlorobenzene	U	1.0						
1,2,4-Trimethylbenzene	U	1.0						
1,2-Dibromo-3-chloropropane	U	1.0						
1,2-Dibromoethane	U	1.0						
1,2-Dichlorobenzene	U	1.0						
1,2-Dichloroethane	U	1.0						
1,2-Dichloropropane	U	1.0						
1,3,5-Trichlorobenzene	U	1.0						
1,3,5-Trimethylbenzene	U	1.0						
1,3-Dichlorobenzene	U	1.0						
1,3-Dichloropropane	U	1.0						
1,4-Dichlorobenzene	U	1.0						
2,2-Dichloropropane	U	1.0						
2-Butanone	U	5.0						
2-Chloroethyl vinyl ether	U	1.0						
2-Chlorotoluene	U	1.0						
2-Hexanone	U	5.0						
2-Methylnaphthalene	U	5.0						
4-Chlorotoluene	U	1.0						
4-Isopropyltoluene	U	1.0						
4-Methyl-2-pentanone	U	1.0						
Acetone	U	10						
Acrolein	U	1.0						
Acrylonitrile	U	1.0						
Benzene	U	1.0						
Benzyl chloride	0.34	1.0						J
Bromobenzene	U	1.0						
Bromochloromethane	U	1.0						
Bromodichloromethane	U	1.0						
Bromoform	U	1.0						
Bromomethane	U	1.0						
Carbon disulfide	U	1.0						

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083	Instrument ID VMS7	Method: SW8260C					
Carbon tetrachloride	U	1.0					
Chlorobenzene	U	1.0					
Chloroethane	U	1.0					
Chloroform	U	1.0					
Chloromethane	U	1.0					
cis-1,2-Dichloroethene	U	1.0					
cis-1,3-Dichloropropene	U	1.0					
Dibromochloromethane	U	1.0					
Dibromomethane	U	1.0					
Dichlorodifluoromethane	U	1.0					
Ethylbenzene	U	1.0					
Hexachlorobutadiene	U	1.0					
Hexachloroethane	U	1.0					
Hexane	U	1.0					
Iodomethane	U	5.0					
Isopropylbenzene	U	1.0					
m,p-Xylene	U	2.0					
Methyl tert-butyl ether	U	1.0					
Methylene chloride	U	5.0					
Naphthalene	U	5.0					
n-Butylbenzene	U	1.0					
n-Propylbenzene	U	1.0					
o-Xylene	U	1.0					
p-Isopropyltoluene	U	1.0					
sec-Butylbenzene	U	1.0					
Styrene	U	1.0					
tert-Butyl alcohol	U	20					
tert-Butylbenzene	U	1.0					
Tetrachloroethene	U	1.0					
Tetrahydrofuran	U	1.0					
Toluene	U	1.0					
trans-1,2-Dichloroethene	U	1.0					
trans-1,3-Dichloropropene	U	1.0					
trans-1,4-Dichloro-2-butene	U	2.0					
Trichloroethene	U	1.0					
Trichlorofluoromethane	U	1.0					
Vinyl acetate	U	5.0					
Vinyl chloride	U	1.0					
Surr: 1,2-Dichloroethane-d4	20.14	0	20	0	101	75-120	0
Surr: 4-Bromofluorobenzene	18.94	0	20	0	94.7	80-110	0
Surr: Dibromofluoromethane	19.76	0	20	0	98.8	85-115	0
Surr: Toluene-d8	20.34	0	20	0	102	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 24 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083		Instrument ID VMS7		Method: SW8260C		Units: µg/L		Analysis Date: 9/28/2020 12:44 PM			
LCS	Sample ID: VLCSW1-200928-R299083	Client ID:	Run ID: VMS7_200928A	SeqNo: 6744860		Prep Date:	DF: 1				
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane		18.14	1.0	20	0	90.7	73-114		0		
1,1,1-Trichloroethane		19.15	1.0	20	0	95.8	75-130		0		
1,1,2,2-Tetrachloroethane		20.7	1.0	20	0	104	75-130		0		
1,1,2-Trichloroethane		20.87	1.0	20	0	104	75-125		0		
1,1-Dichloroethane		19.44	1.0	20	0	97.2	68-142		0		
1,1-Dichloroethene		18.39	1.0	20	0	92	70-145		0		
1,1-Dichloropropene		20.6	1.0	20	0	103	75-135		0		
1,2,3-Trichlorobenzene		21.74	1.0	20	0	109	70-140		0		
1,2,3-Trichloropropane		20.54	1.0	20	0	103	75-125		0		
1,2,4-Trichlorobenzene		21.74	1.0	20	0	109	70-135		0		
1,2,4-Trimethylbenzene		19.42	1.0	20	0	97.1	75-130		0		
1,2-Dibromo-3-chloropropane		18.68	1.0	20	0	93.4	60-130		0		
1,2-Dibromoethane		20.01	1.0	20	0	100	67-155		0		
1,2-Dichlorobenzene		20.75	1.0	20	0	104	70-130		0		
1,2-Dichloroethane		20.55	1.0	20	0	103	78-125		0		
1,2-Dichloropropane		18.01	1.0	20	0	90	75-125		0		
1,3,5-Trimethylbenzene		20.74	1.0	20	0	104	75-130		0		
1,3-Dichlorobenzene		20.88	1.0	20	0	104	75-130		0		
1,3-Dichloropropane		20.14	1.0	20	0	101	75-125		0		
1,4-Dichlorobenzene		20.77	1.0	20	0	104	75-130		0		
2,2-Dichloropropane		20.1	1.0	20	0	100	43-150		0		
2-Butanone		16.62	5.0	20	0	83.1	55-150		0		
2-Chlorotoluene		20.45	1.0	20	0	102	76-117		0		
2-Hexanone		18.88	5.0	20	0	94.4	60-135		0		
4-Chlorotoluene		18.54	1.0	20	0	92.7	80-125		0		
4-Isopropyltoluene		22.43	1.0	20	0	112	61-164		0		
4-Methyl-2-pentanone		25.9	1.0	20	0	130	77-178		0		
Acetone		18.43	10	20	0	92.2	60-160		0		
Acrylonitrile		18.4	1.0	20	0	92	60-140		0		
Benzene		19.7	1.0	20	0	98.5	70-130		0		
Bromobenzene		19.63	1.0	20	0	98.2	80-125		0		
Bromochloromethane		19.63	1.0	20	0	98.2	72-141		0		
Bromodichloromethane		18.45	1.0	20	0	92.2	75-125		0		
Bromoform		16.1	1.0	20	0	80.5	60-125		0		
Bromomethane		36.73	1.0	20	0	184	30-185		0		
Carbon disulfide		21.13	1.0	20	0	106	60-165		0		
Carbon tetrachloride		17.45	1.0	20	0	87.2	65-140		0		
Chlorobenzene		20.43	1.0	20	0	102	80-120		0		
Chloroethane		13.84	1.0	20	0	69.2	31-172		0		
Chloroform		19.55	1.0	20	0	97.8	66-135		0		
Chloromethane		13.16	1.0	20	0	65.8	46-148		0		
cis-1,2-Dichloroethene		19.86	1.0	20	0	99.3	75-134		0		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083	Instrument ID VMS7	Method: SW8260C					
cis-1,3-Dichloropropene	18.26	1.0	20	0	91.3	70-130	0
Dibromochloromethane	16.69	1.0	20	0	83.4	60-115	0
Dibromomethane	19.61	1.0	20	0	98	79-126	0
Dichlorodifluoromethane	15.04	1.0	20	0	75.2	20-120	0
Ethylbenzene	20.01	1.0	20	0	100	76-123	0
Hexachlorobutadiene	24.87	1.0	20	0	124	70-155	0
Hexachloroethane	17.08	1.0	20	0	85.4	50-124	0
Iodomethane	47.33	5.0	20	0	237	60-160	0
Isopropylbenzene	21.35	1.0	20	0	107	80-127	0
m,p-Xylene	40.35	2.0	40	0	101	75-130	0
Methyl tert-butyl ether	18.12	1.0	20	0	90.6	68-129	0
Methylene chloride	17.75	5.0	20	0	88.8	72-125	0
Naphthalene	19.99	5.0	20	0	100	55-160	0
n-Butylbenzene	21.24	1.0	20	0	106	75-145	0
n-Propylbenzene	20.95	1.0	20	0	105	76-116	0
o-Xylene	20.59	1.0	20	0	103	76-127	0
p-Isopropyltoluene	22.43	1.0	20	0	112	61-164	0
sec-Butylbenzene	19.36	1.0	20	0	96.8	80-134	0
Styrene	20.18	1.0	20	0	101	83-137	0
tert-Butyl alcohol	87.54	20	100	0	87.5	70-130	0
tert-Butylbenzene	20.59	1.0	20	0	103	70-130	0
Tetrachloroethene	20	1.0	20	0	100	68-166	0
Tetrahydrofuran	16.86	1.0	20	0	84.3	54-139	0
Toluene	19.6	1.0	20	0	98	76-125	0
trans-1,2-Dichloroethene	20.29	1.0	20	0	101	80-140	0
trans-1,3-Dichloropropene	17.16	1.0	20	0	85.8	56-132	0
trans-1,4-Dichloro-2-butene	15.76	2.0	20	0	78.8	46-118	0
Trichloroethene	19.03	1.0	20	0	95.2	77-125	0
Trichlorofluoromethane	14.83	1.0	20	0	74.2	60-140	0
Vinyl chloride	16.59	1.0	20	0	83	50-136	0
Surr: 1,2-Dichloroethane-d4	19.79	0	20	0	99	75-120	0
Surr: 4-Bromofluorobenzene	19.06	0	20	0	95.3	80-110	0
Surr: Dibromofluoromethane	20.27	0	20	0	101	85-115	0
Surr: Toluene-d8	20.12	0	20	0	101	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 26 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083		Instrument ID VMS7		Method: SW8260C									
MS	Sample ID: 20091569-03A MS			Units: µg/L		Analysis Date: 9/28/2020 07:44 PM							
Client ID:	Run ID: VMS7_200928A			SeqNo: 6744868		Prep Date:		DF: 50					
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
1,1,1,2-Tetrachloroethane	1046	50	1000	0	105	73-114		0					
1,1,1-Trichloroethane	1162	50	1000	0	116	75-130		0					
1,1,2,2-Tetrachloroethane	1182	50	1000	0	118	75-130		0					
1,1,2-Trichloroethane	1158	50	1000	0	116	75-125		0					
1,1-Dichloroethane	1246	50	1000	0	125	68-142		0					
1,1-Dichloroethene	1196	50	1000	0	120	70-145		0					
1,1-Dichloropropene	1235	50	1000	0	124	75-135		0					
1,2,3-Trichlorobenzene	888	50	1000	0	88.8	70-140		0					
1,2,3-Trichloropropane	1096	50	1000	0	110	75-125		0					
1,2,4-Trichlorobenzene	888	50	1000	0	88.8	70-135		0					
1,2,4-Trimethylbenzene	2553	50	1000	1358	119	75-130		0					
1,2-Dibromo-3-chloropropane	840	50	1000	0	84	60-130		0					
1,2-Dibromoethane	1062	50	1000	0	106	67-155		0					
1,2-Dichlorobenzene	1020	50	1000	0	102	70-130		0					
1,2-Dichloroethane	1228	50	1000	0	123	78-125		0					
1,2-Dichloropropane	1106	50	1000	0	111	75-125		0					
1,3,5-Trimethylbenzene	1808	50	1000	581	123	75-130		0					
1,3-Dichlorobenzene	1064	50	1000	0	106	75-130		0					
1,3-Dichloropropane	1133	50	1000	0	113	75-125		0					
1,4-Dichlorobenzene	1050	50	1000	0	105	75-130		0					
2,2-Dichloropropane	1215	50	1000	0	122	43-150		0					
2-Butanone	1027	250	1000	0	103	55-150		0					
2-Chlorotoluene	1282	50	1000	99	118	76-117		0			S		
2-Hexanone	1052	250	1000	0	105	60-135		0					
4-Chlorotoluene	1110	50	1000	61.5	105	80-125		0					
4-Isopropyltoluene	1157	50	1000	23	113	61-164		0					
4-Methyl-2-pentanone	1493	50	1000	0	149	77-178		0					
Acetone	1422	500	1000	484.5	93.8	60-160		0					
Acrylonitrile	1152	50	1000	50.5	110	60-140		0					
Benzene	1927	50	1000	788.5	114	70-130		0					
Bromobenzene	1102	50	1000	38	106	80-125		0					
Bromochloromethane	1306	50	1000	0	131	72-141		0					
Bromodichloromethane	1098	50	1000	0	110	75-125		0					
Bromoform	779.5	50	1000	0	78	60-125		0					
Bromomethane	7276	50	1000	0	728	30-185		0			SE		
Carbon disulfide	1326	50	1000	0	133	60-165		0					
Carbon tetrachloride	1081	50	1000	0	108	65-140		0					
Chlorobenzene	1092	50	1000	0	109	80-120		0					
Chloroethane	1986	50	1000	0	199	31-172		0			S		
Chloroform	1222	50	1000	0	122	66-135		0					
Chloromethane	754	50	1000	0	75.4	46-148		0					
cis-1,2-Dichloroethene	1264	50	1000	30	123	75-134		0					

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083	Instrument ID VMS7	Method: SW8260C					
cis-1,3-Dichloropropene	1001	50	1000	0	100	70-130	0
Dibromochloromethane	900	50	1000	0	90	60-115	0
Dibromomethane	1092	50	1000	0	109	79-126	0
Dichlorodifluoromethane	970.5	50	1000	0	97	20-120	0
Ethylbenzene	3348	50	1000	1923	142	76-123	0
Hexachlorobutadiene	984	50	1000	0	98.4	70-155	0
Hexachloroethane	908.5	50	1000	66.5	84.2	50-124	0
Iodomethane	4053	250	1000	0	405	60-160	0
Isopropylbenzene	1327	50	1000	117.5	121	80-127	0
m,p-Xylene	4484	100	2000	1922	128	75-130	0
Methyl tert-butyl ether	1047	50	1000	0	105	68-129	0
Methylene chloride	1153	250	1000	0	115	72-125	0
Naphthalene	1404	250	1000	526.5	87.7	55-160	0
n-Butylbenzene	1156	50	1000	26	113	75-145	0
n-Propylbenzene	1560	50	1000	336.5	122	76-116	0
o-Xylene	1212	50	1000	42	117	76-127	0
p-Isopropyltoluene	1157	50	1000	23	113	61-164	0
sec-Butylbenzene	1047	50	1000	22	102	80-134	0
Styrene	1108	50	1000	0	111	83-137	0
tert-Butyl alcohol	5184	1,000	5000	0	104	70-130	0
tert-Butylbenzene	1192	50	1000	0	119	70-130	0
Tetrachloroethene	1106	50	1000	0	111	68-166	0
Tetrahydrofuran	991	50	1000	15.5	97.6	54-139	0
Toluene	1146	50	1000	30	112	76-125	0
trans-1,2-Dichloroethene	1311	50	1000	0	131	80-140	0
trans-1,3-Dichloropropene	928	50	1000	0	92.8	56-132	0
trans-1,4-Dichloro-2-butene	850.5	100	1000	14	83.6	46-118	0
Trichloroethene	1048	50	1000	0	105	77-125	0
Trichlorofluoromethane	1001	50	1000	0	100	60-140	0
Vinyl chloride	1119	50	1000	0	112	50-136	0
Surr: 1,2-Dichloroethane-d4	1116	0	1000	0	112	75-120	0
Surr: 4-Bromofluorobenzene	1054	0	1000	0	105	80-110	0
Surr: Dibromofluoromethane	1073	0	1000	0	107	85-115	0
Surr: Toluene-d8	1036	0	1000	0	104	85-110	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 28 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083		Instrument ID VMS7		Method: SW8260C								
MSD	Sample ID: 20091569-03A MSD			Units: µg/L		Analysis Date: 9/28/2020 08:01 PM						
Client ID:	Run ID: VMS7_200928A			SeqNo: 6744869		Prep Date:		DF: 50				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual		
1,1,1,2-Tetrachloroethane	1079	50	1000	0	108	73-114	1046	3.06	30			
1,1,1-Trichloroethane	1174	50	1000	0	117	75-130	1162	0.984	30			
1,1,2,2-Tetrachloroethane	1229	50	1000	0	123	75-130	1182	3.86	30			
1,1,2-Trichloroethane	1206	50	1000	0	121	75-125	1158	4.15	30			
1,1-Dichloroethane	1290	50	1000	0	129	68-142	1246	3.43	30			
1,1-Dichloroethene	1257	50	1000	0	126	70-145	1196	5.02	30			
1,1-Dichloropropene	1248	50	1000	0	125	75-135	1235	1.09	30			
1,2,3-Trichlorobenzene	904	50	1000	0	90.4	70-140	888	1.79	30			
1,2,3-Trichloropropane	1194	50	1000	0	119	75-125	1096	8.56	30			
1,2,4-Trichlorobenzene	904	50	1000	0	90.4	70-135	888	1.79	30			
1,2,4-Trimethylbenzene	2586	50	1000	1358	123	75-130	2553	1.3	30			
1,2-Dibromo-3-chloropropane	920	50	1000	0	92	60-130	840	9.09	30			
1,2-Dibromoethane	1138	50	1000	0	114	67-155	1062	6.91	30			
1,2-Dichlorobenzene	1048	50	1000	0	105	70-130	1020	2.8	30			
1,2-Dichloroethane	1240	50	1000	0	124	78-125	1228	1.05	30			
1,2-Dichloropropane	1106	50	1000	0	111	75-125	1106	0	30			
1,3,5-Trimethylbenzene	1884	50	1000	581	130	75-130	1808	4.12	30	S		
1,3-Dichlorobenzene	1096	50	1000	0	110	75-130	1064	2.92	30			
1,3-Dichloropropane	1136	50	1000	0	114	75-125	1133	0.264	30			
1,4-Dichlorobenzene	1072	50	1000	0	107	75-130	1050	2.07	30			
2,2-Dichloropropane	1220	50	1000	0	122	43-150	1215	0.411	30			
2-Butanone	1048	250	1000	0	105	55-150	1027	2.02	30			
2-Chlorotoluene	1342	50	1000	99	124	76-117	1282	4.57	30			
2-Hexanone	1110	250	1000	0	111	60-135	1052	5.32	30			
4-Chlorotoluene	1151	50	1000	61.5	109	80-125	1110	3.58	30			
4-Isopropyltoluene	1178	50	1000	23	115	61-164	1157	1.76	30			
4-Methyl-2-pentanone	1604	50	1000	0	160	77-178	1493	7.14	30			
Acetone	1496	500	1000	484.5	101	60-160	1422	5.07	30			
Acrylonitrile	1196	50	1000	50.5	114	60-140	1152	3.71	30			
Benzene	1886	50	1000	788.5	110	70-130	1927	2.18	30			
Bromobenzene	1132	50	1000	38	109	80-125	1102	2.78	30			
Bromochloromethane	1306	50	1000	0	131	72-141	1306	0.0383	30			
Bromodichloromethane	1109	50	1000	0	111	75-125	1098	1.04	30			
Bromoform	863	50	1000	0	86.3	60-125	779.5	10.2	30			
Bromomethane	7802	50	1000	0	780	30-185	7276	6.98	30	SE		
Carbon disulfide	1371	50	1000	0	137	60-165	1326	3.3	30			
Carbon tetrachloride	1068	50	1000	0	107	65-140	1081	1.16	30			
Chlorobenzene	1094	50	1000	0	109	80-120	1092	0.229	30			
Chloroethane	2144	50	1000	0	214	31-172	1986	7.67	30			
Chloroform	1237	50	1000	0	124	66-135	1222	1.22	30			
Chloromethane	787.5	50	1000	0	78.8	46-148	754	4.35	30			
cis-1,2-Dichloroethene	1312	50	1000	30	128	75-134	1264	3.8	30			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299083	Instrument ID VMS7	Method: SW8260C							
cis-1,3-Dichloropropene	1004	50	1000	0	100	70-130	1001	0.249	30
Dibromochloromethane	922	50	1000	0	92.2	60-115	900	2.41	30
Dibromomethane	1118	50	1000	0	112	79-126	1092	2.31	30
Dichlorodifluoromethane	1018	50	1000	0	102	20-120	970.5	4.78	30
Ethylbenzene	3444	50	1000	1923	152	76-123	3348	2.84	30 S
Hexachlorobutadiene	1186	50	1000	0	119	70-155	984	18.6	30
Hexachloroethane	911	50	1000	66.5	84.4	50-124	908.5	0.275	30
Iodomethane	4748	250	1000	0	475	60-160	4053	15.8	30 S
Isopropylbenzene	1334	50	1000	117.5	122	80-127	1327	0.489	30
m,p-Xylene	4715	100	2000	1922	140	75-130	4484	5.02	30 S
Methyl tert-butyl ether	1102	50	1000	0	110	68-129	1047	5.16	30
Methylene chloride	1196	250	1000	0	120	72-125	1153	3.7	30
Naphthalene	1560	250	1000	526.5	103	55-160	1404	10.5	30
n-Butylbenzene	1200	50	1000	26	117	75-145	1156	3.78	30
n-Propylbenzene	1648	50	1000	336.5	131	76-116	1560	5.45	30 S
o-Xylene	1284	50	1000	42	124	76-127	1212	5.73	30
p-Isopropyltoluene	1178	50	1000	23	115	61-164	1157	1.76	30
sec-Butylbenzene	1146	50	1000	22	112	80-134	1047	9.07	30
Styrene	1152	50	1000	0	115	83-137	1108	3.9	30
tert-Butyl alcohol	5346	1,000	5000	0	107	70-130	5184	3.09	30
tert-Butylbenzene	1271	50	1000	0	127	70-130	1192	6.46	30
Tetrachloroethene	1110	50	1000	0	111	68-166	1106	0.316	30
Tetrahydrofuran	1106	50	1000	15.5	109	54-139	991	11	30
Toluene	1194	50	1000	30	116	76-125	1146	4.19	30
trans-1,2-Dichloroethene	1365	50	1000	0	136	80-140	1311	4.04	30
trans-1,3-Dichloropropene	970	50	1000	0	97	56-132	928	4.43	30
trans-1,4-Dichloro-2-butene	892	100	1000	14	87.8	46-118	850.5	4.76	30
Trichloroethene	1080	50	1000	0	108	77-125	1048	3.05	30
Trichlorofluoromethane	948.5	50	1000	0	94.8	60-140	1001	5.39	30
Vinyl chloride	1176	50	1000	0	118	50-136	1119	4.97	30
Surr: 1,2-Dichloroethane-d4	1116	0	1000	0	112	75-120	1116	0.0448	30
Surr: 4-Bromofluorobenzene	1024	0	1000	0	102	80-110	1054	2.89	30
Surr: Dibromofluoromethane	1088	0	1000	0	109	85-115	1073	1.34	30
Surr: Toluene-d8	1058	0	1000	0	106	85-110	1036	2.15	30

The following samples were analyzed in this batch:

20091397-11A	20091397-12A	20091397-13A
20091397-14A	20091397-15A	

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R299090A		Instrument ID VMS8		Method: SW8260C						
MBLK	Sample ID: VBLKW1-200928-R299090A			Units: µg/L		Analysis Date: 9/28/2020 02:18 PM				
Client ID:	Run ID: VMS8_200928A		SeqNo: 6744119		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	U	1.0								
Vinyl chloride	U	1.0								
Surr: 1,2-Dichloroethane-d4	18.72	0	20	0	93.6	75-120		0		
Surr: 4-Bromofluorobenzene	19.52	0	20	0	97.6	80-110		0		
Surr: Dibromofluoromethane	20.54	0	20	0	103	85-115		0		
Surr: Toluene-d8	20.75	0	20	0	104	85-110		0		
LCS	Sample ID: VLCSW1-200928-R299090A			Units: µg/L		Analysis Date: 9/28/2020 01:29 PM				
Client ID:	Run ID: VMS8_200928A		SeqNo: 6744116		Prep Date:		DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	19.8	1.0	20	0	99	75-134		0		
Vinyl chloride	16.93	1.0	20	0	84.6	50-136		0		
Surr: 1,2-Dichloroethane-d4	18.5	0	20	0	92.5	75-120		0		
Surr: 4-Bromofluorobenzene	19.25	0	20	0	96.2	80-110		0		
Surr: Dibromofluoromethane	20.65	0	20	0	103	85-115		0		
Surr: Toluene-d8	19.28	0	20	0	96.4	85-110		0		
MS	Sample ID: 20091274-23A MS			Units: µg/L		Analysis Date: 9/28/2020 08:19 PM				
Client ID:	Run ID: VMS8_200928A		SeqNo: 6744173		Prep Date:		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	189.5	10	200	0	94.8	75-134		0		
Vinyl chloride	149.2	10	200	0	74.6	50-136		0		
Surr: 1,2-Dichloroethane-d4	174.2	0	200	0	87.1	75-120		0		
Surr: 4-Bromofluorobenzene	191.1	0	200	0	95.6	80-110		0		
Surr: Dibromofluoromethane	203.1	0	200	0	102	85-115		0		
Surr: Toluene-d8	201	0	200	0	100	85-110		0		
MSD	Sample ID: 20091274-23A MSD			Units: µg/L		Analysis Date: 9/28/2020 08:35 PM				
Client ID:	Run ID: VMS8_200928A		SeqNo: 6744177		Prep Date:		DF: 10			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	184.2	10	200	0	92.1	75-134	189.5	2.84	30	
Vinyl chloride	148	10	200	0	74	50-136	149.2	0.808	30	
Surr: 1,2-Dichloroethane-d4	172.6	0	200	0	86.3	75-120	174.2	0.923	30	
Surr: 4-Bromofluorobenzene	192.3	0	200	0	96.2	80-110	191.1	0.626	30	
Surr: Dibromofluoromethane	206.5	0	200	0	103	85-115	203.1	1.66	30	
Surr: Toluene-d8	203.8	0	200	0	102	85-110	201	1.38	30	

The following samples were analyzed in this batch:

20091397-13A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

Batch ID: R298418D		Instrument ID LACHAT2		Method: E353.2 R2.0						
MBLK Sample ID: MBLK4-R298418D				Units: mg/L		Analysis Date: 9/18/2020 12:44 PM				
Client ID:		Run ID: LACHAT2_200918A		SeqNo: 6718312		Prep Date:				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	U	0.020								
LCS Sample ID: LCS4-R298418D				Units: mg/L		Analysis Date: 9/18/2020 12:45 PM				
Client ID:		Run ID: LACHAT2_200918A		SeqNo: 6718313		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	2.494	0.020	2.5	0	99.8	80-120	0			
MS Sample ID: 20091397-04E MS				Units: mg/L		Analysis Date: 9/18/2020 12:52 PM				
Client ID: COL-GW-04		Run ID: LACHAT2_200918A		SeqNo: 6718319		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	2.48	0.020	2.5	-0.0002747	99.2	75-125	0			
MS Sample ID: 20091486-01A MS				Units: mg/L		Analysis Date: 9/18/2020 02:06 PM				
Client ID:		Run ID: LACHAT2_200918A		SeqNo: 6718360		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	2.78	0.020	2.5	0.1654	105	75-125	0			
MSD Sample ID: 20091397-04E MSD				Units: mg/L		Analysis Date: 9/18/2020 01:58 PM				
Client ID: COL-GW-04		Run ID: LACHAT2_200918A		SeqNo: 6718354		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	2.558	0.020	2.5	-0.0002747	102	75-125	2.48	3.1	20	
MSD Sample ID: 20091486-01A MSD				Units: mg/L		Analysis Date: 9/18/2020 02:07 PM				
Client ID:		Run ID: LACHAT2_200918A		SeqNo: 6718361		Prep Date:		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Nitrogen, Nitrate-Nitrite	2.672	0.020	2.5	0.1654	100	75-125	2.78	3.96	20	
The following samples were analyzed in this batch:				20091397-04E	20091397-05E	20091397-07E				
				20091397-15E	20091397-18E					

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 32 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R298551		Instrument ID WETCHEM		Method: SW9034								
MBLK	Sample ID: MB-R298551-R298551				Units: mg/L		Analysis Date: 9/21/2020 03:15 PM					
Client ID:	Run ID: WETCHEM_200921O				SeqNo: 6723511	Prep Date:	DF: 1					
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfide		U	1.0									
LCS	Sample ID: LCS-R298551-R298551				Units: mg/L		Analysis Date: 9/21/2020 03:15 PM					
Client ID:	Run ID: WETCHEM_200921O				SeqNo: 6723512	Prep Date:	DF: 1					
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfide		7.8	1.0	10.75	0	72.6	56-102		0			
MS	Sample ID: 20091397-04CMS				Units: mg/L		Analysis Date: 9/21/2020 03:15 PM					
Client ID: COL-GW-04	Run ID: WETCHEM_200921O				SeqNo: 6723525	Prep Date:	DF: 1					
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfide		8.6	1.0	10.75	0	80	56-102		0			
MSD	Sample ID: 20091397-04CMSD				Units: mg/L		Analysis Date: 9/21/2020 03:15 PM					
Client ID: COL-GW-04	Run ID: WETCHEM_200921O				SeqNo: 6723526	Prep Date:	DF: 1					
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
Sulfide		8.53	1.0	10.75	0	79.3	56-102	8.6	0.817	10		

The following samples were analyzed in this batch:

20091397-04C	20091397-05C	20091397-07C
20091397-18C		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

Batch ID: R298685		Instrument ID WETCHEM		Method: SW9034	
				Analysis Date: 9/22/2020 06:50 PM	
MBLK		Sample ID: MB-R298685-R298685		Units: mg/L	
Client ID:		Run ID: WETCHEM_200922V		SeqNo: 6727517	Prep Date: DF: 1
Analyte		Result	PQL	SPK Ref Value	%REC Control Limit RPD Ref Value %RPD RPD Limit Qual
Sulfide		U	1.0		
LCS		Sample ID: LCS-R298685-R298685		Units: mg/L	
Client ID:		Run ID: WETCHEM_200922V		SeqNo: 6727518	Prep Date: DF: 1
Analyte		Result	PQL	SPK Ref Value	%REC Control Limit RPD Ref Value %RPD RPD Limit Qual
Sulfide		7.56	1.0	10.75	0 70.3 56-102 0
DUP		Sample ID: 20091738-02A DUP		Units: mg/L	
Client ID:		Run ID: WETCHEM_200922V		SeqNo: 6727526	Prep Date: DF: 1
Analyte		Result	PQL	SPK Ref Value	%REC Control Limit RPD Ref Value %RPD RPD Limit Qual
Sulfide		7.2	1.0	0	0 0 0-0 7.2 0 10

The following samples were analyzed in this batch:

20091397-15C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC Page: 34 of 35

Client: BB&E, Inc.
Work Order: 20091397
Project: SSW Collis 2020 LTM Task 3

QC BATCH REPORT

Batch ID: R298722		Instrument ID IC4		Method: SW9056A	
MBLK	Sample ID: MBLK-R298722			Units: mg/L	Analysis Date: 9/22/2020 01:52 PM
Client ID:		Run ID: IC4_200922A		SeqNo: 6728633	Prep Date: DF: 1
Analyte		Result	PQL	SPK Val	SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual
Chloride		U		1.0	
Sulfate		U		1.0	
LCS	Sample ID: LCS-R298722			Units: mg/L	Analysis Date: 9/22/2020 02:11 PM
Client ID:		Run ID: IC4_200922A		SeqNo: 6728634	Prep Date: DF: 1
Analyte		Result	PQL	SPK Val	SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual
Chloride		9.557	1.0	10	0 95.6 88-110 0
Sulfate		9.996	1.0	10	0 100 90-110 0
MS	Sample ID: 20091397-04B MS			Units: mg/L	Analysis Date: 9/22/2020 04:26 PM
Client ID: COL-GW-04		Run ID: IC4_200922A		SeqNo: 6728641	Prep Date: DF: 20
Analyte		Result	PQL	SPK Val	SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual
Chloride		256.1	20	200	70.56 92.8 88-110 0
Sulfate		288.1	20	200	97.57 95.3 90-110 0
MSD	Sample ID: 20091397-04B MSD			Units: mg/L	Analysis Date: 9/22/2020 04:45 PM
Client ID: COL-GW-04		Run ID: IC4_200922A		SeqNo: 6728642	Prep Date: DF: 20
Analyte		Result	PQL	SPK Val	SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual
Chloride		256.2	20	200	70.56 92.8 88-110 256.1 0.0242 20
Sulfate		289.2	20	200	97.57 95.8 90-110 288.1 0.369 20

The following samples were analyzed in this batch:

20091397-04B	20091397-05B	20091397-07B
20091397-15B	20091397-18B	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.



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Chain of Custody Form

Page 1 of 2

COC ID: 222806

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+1 610 948 4903Salt Lake City, UT
+1 801 266 7700South Charleston, WV
+1 304 356 3168York, PA
+1 717 505 5280

Customer Information		Project Information		Parameter/Method Request for Analysis															
Purchase Order		Project Name	SSW-COOL 2010 LTR Task 3	A	XGCS														
Work Order		Project Number		B	Copper Nitrate Sulfate														
Company Name	BB&E LLC	Bill To Company	BB&E, LLC	C	Cadmium and Manganese														
Send Report To	Karen Van Buskirk	Invoice Attn	Attn: KAREN VAN BUSKIRK	D	Sulfide														
Address	270 East Main Street Suite 107	Address	270 East Main Street Suite 107	E	Methane Ethane Ethene														
City/State/Zip	Fentonville, MI 48117	City/State/Zip	Fentonville, MI 48117	F	1,4-Dioxane														
Phone	(513) 483-1636	Phone	(513) 483-9636	G	Nitrate														
Fax	(513) 483-1646	Fax	(513) 483-1646	H															
e-Mail Address		e-Mail Address		I															
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold		
1	COL-GW-01	9/14/20	1455	GW	7,8	3	K												
2	COL-GW-02	9/14/20	1520	GW	7,8	3	K												
3	COL-GW-03	9/14/20	1605	GW	7,8	3	X												
4	COL-GW-04	9/14/20	1645	GW	1,2,7,8	12	X	X	X	X	X	X	X	X					
5	COL-GW-04 MS/MSD	9/14/20	1645	GW	1,2,7,8	24	X	X	X	X	X	X	X	X					
6	COL-GW-05	9/14/20	1645	GW	1,2,7,8	12	X	X	X	X	X	X	X	X					
7	COL-GW-06	9/14/20	1750	GW	1,2,7,8	12	X	X	X	X	X	X	X	X					
8	COL-GW-07	9/15/20	0750	GW	1,8	6	K												
9	COL-GW-08	9/15/20	0850	GW	1,2,7,8	12	X	X	X	X	X	X	X	X					
10	COL-GW-09	9/15/20	0950	GW	1,8	3	K												
Sampler(s) Please Print & Sign ..				Shipment Method	Required Turnaround Time: (Check Box)				Results Due Date:										
				FEDEX	<input checked="" type="checkbox"/> Std 10 Wk Days <input type="checkbox"/> 3 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour														
Relinquished by:	Date:	Time:	Received by:					Notes:											
			FEDEX																
Relinquished by:	Date:	Time:	Received by (Laboratory):					Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)									
	9/16/20	1070	FEDEX					1R3	31°C	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TFRP Checklist									
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):					PWZ2	24°F	<input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TFRP Level IV									
	9/16/20	1325	(C)							<input type="checkbox"/> Level IV SW846/QLP									
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other														Copyright 2011 by ALS Environmental					

- Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.



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Chain of Custody FormPage 2 of 2

COC ID: 222803

Houston, TX
+1 281 530 5656Middletown, PA
+1 717 944 5541Spring City, PA
+1 610 948 4903Salt Lake City, UT
+1 801 266 7700South Charleston, WV
+1 304 356 3168York, PA
+1 717 505 5280

Customer Information		Project Information		ALS Project Manager:											ALS Work Order #:		
Purchase Order		Project Name	SSW Coag 2020 1111 Task 3												20091397		
Work Order		Project Number															
Company Name	BB&E, LLC	Bill To Company	BB&E, LLC														
Send Report To	Katie Van Buskirk	Invoice Attn	Accounts Payable														
Address	240 East Main Street Suite 107	Address	240 East Main Street Suite 107														
City/State/Zip	Northville, MI 48167	City/State/Zip	Northville, MI 48167														
Phone	(248) 483-9836	Phone	(248) 483-9836														
Fax	(248) 483 9846	Fax	(248) 483 9846														
e-Mail Address		e-Mail Address													J		
No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	COL-GW-10	9/15/20	1055	GW	1,8	3	X										
2	COL-GW-11	9/15/20	1140	GW	1,8	3	X										
3	COL-GW-12	9/15/20	1220	GW	1,8	3	X										
4	COL-GW-13	9/15/20	1300	GW	1,8	3	X										
5	COL-GW-14	9/15/20	1345	GW	1,8	3	X										
6	COL COL-GW-15	9/15/20	1345	GW	1,8	3	X										
7	EB	9/15/20	1400	GW	1,2,7,8	12	X	X	X	X	X	X	X				
8	TRIP BLANK #1					2	X										
9	TRIP BLANK #2					2	X										
10																	

Sampler(s) Please Print & Sign			Shipment Method	Required Turnaround Time: (Check Box)				Results Due Date:								
			FedEx	<input checked="" type="checkbox"/> Std 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour												
Relinquished by:			Date: 9/16/20	Time: 1030	Received by:	Notes:										
Relinquished by:			Date: 9/16/20	Time: 1030	Received by Laboratory:											
Logged by (Laboratory):			Date: 9/16/20	Time: 1325	Checked by Laboratory:											
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035							Cooler ID				Cooler Temp.		QC Package: (Check One Box Below)			
													<input type="checkbox"/> Level II Std QC		<input type="checkbox"/> TPRP Checklist	
													<input type="checkbox"/> Level III Std QC/Raw Data		<input type="checkbox"/> TPRP Level I	
													<input type="checkbox"/> Level IV SH846/C, P			
													<input type="checkbox"/> Other			

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ALS Group, USA

Sample Receipt Checklist

Client Name: BBE

Date/Time Received: 17-Sep-20 10:30

Work Order: 20091397

Received by: KRW

Checklist completed by Keith Wierenga
eSignature

17-Sep-20
Date

Reviewed by: Chad Whelton
eSignature

18-Sep-20
Date

Matrices: Water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.1/4.1, 2.4/3.4 C</u> <input type="checkbox"/> IR3		
Cooler(s)/Kit(s):	<input type="checkbox"/>		
Date/Time sample(s) sent to storage:	<u>9/17/2020 1:41:34 PM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<input type="checkbox"/>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

ATTACHMENT B

FIELD NOTES

- 1300 KVB onsite / pick up equipment
 1315 cal check equipment
 1330 collect Static water (WT)
 1425 commence purge @ MW-47S
 1455 Sample MW-47S (COL-GW-01) for VOCs
 1500 commence Purge @ PZ-47
 1520 Sample PZ-47 (COL-GW-02) for VOCs
 1535 commence Purge @ PZ-48
 1605 Sample PZ-48 (COL-GW-03) for VOCs
 commence Purge @ MW-42
 1645 Sample MW-42 (COL-GW-04) and COL-GW-04 WS/MSD
 for VOCs, MNA, and 1,4-dioxane
 1645 Sample MW-42 Dup (COL-GW-05) for VOCs, MNA, and
 1,4-dioxane
 1725 Commence purge @ MW-34
 1750 Sample MW-34 (COL-GW-06) for VOCs, MNA, and
 1,4-dioxane.
 1800 Cal check equipment
 1830 pump ~ 15 gal purge water @ WWT area inside
 plant
 1845 KVB offsite


 9/14/20

FIELD NOTES

Project SSW Collis LTM second semi-annual 2020

 Date 9/14/20

 Field Rep. KVB

 Page 1 of 2

0630 KVB onsite
 0645 CUI check equipment
 0720 Commence purge @ MW-45 (COL-GW-07)
 0750 Sample MW-45 (COL-GW-07) for VOCs and 1,4-dioxane
 0820 Commence purge @ MW-53
 0850 Sample MW-53 (COL-GW-08) for VOCs, MNA, 1,4-dioxane
 0925 Commence purge @ MW-56
 0950 Sample MW-56 for VOCs (COL-GW-09)
 1010 Dump ~15 gallons purge water @ WWTS in plan
 1020 Commence purge @ MW-56
 1055 Sample MW-56 (COL-GW-10) for VOCs
 1110 Commence purge @ MW-56
 1140 Sample MW-56 (COL-GW-11) for VOCs
 1150 Dump ~10 gallon) purge water @ WWTS in plan
 1200 Commence purge @ MW-38
 1220 Sample MW-38 (COL-GW-12) for VOCs
 1235 Commence purge @ MW-39
 1300 Sample MW-39 (COL-GW-13) for VOCs
 1320 Commence purge @ MW-39
 Sample MW-39 (COL-GW-14) for VOCs and collect
 MW-39 Drip (COL-GW-15) for VOCs
 1400 Collect Equipment taken for VOCs, 1,4-dioxane, MNA
 1430 CUI check equipment
 1500 Dump ~10 gal purge water @ WWTS
 1515 KVB offsite



 9/15/20

FIELD NOTES

Project SSW Collis LTM second semi-annual 2020

 Date 9/15/20

 Field Rep. KVB

 Page 2 of 2

MONITOR WELL STATIC WATER LEVEL FORM

Project Name: LTM SA 2 2020

Water Level Indicator ID # Grotzen

LOCATION: SSW Collis, Clinton Iowa

DATE: 9/14/20

Field Book # N/A

Page # 1 of 1

Monitor Well Number	Total Well Depth	Well Screen Length	Time	Depth to Static Water Level
MW-38	9.95	5 ft	1333	3.14
MW-39	13.91	5 ft	1330	3.24
MW-50S	12.28	5 ft	1341	2.95
PZ-47	10.89	10 ft	1347	3.52
PZ-48	10.65	10 ft	1353	3.60
MW-34	31.6	5 ft	1400	4.58
MW-45	25.59	5 ft	1407	0.0 - Artesian
MW-47S	17.93	5 ft	1349	3.09
MW-50	24.77	5 ft	1339	3.75
MW-56	30	5 ft	1415	0.80
MW-42	50.2	5 ft	1358	4.02
MW-53	52.24	5 ft	1411	0.0 - Artesian
MW-43	99.38	5 ft	1335	0.0 - Artesian

Note: total well depth to be measured at time of gauging.

Comments: _____

Sampler KVB Observer _____

Equipment Calibration Daily Log



Date: 9/14/20	Project Name: LTM SA2 2020
Project#: 02028025 Task 3	Recorded by: KVB

WATER QUALITY METER	Model: YSI PRO Equipment ID#: 5371				Morning Calibration/ Check	Evening Check (one point only)	Additional Calib/Check (if needed)
	Parameter	Standard	Exp Date	Lot#	Time:	Time:	Time:
First Point Calibration (Auto)	pH	7.0	1/22	06A693	Initials: 7.0	Value: 7.03	
	Turbidity (NTU)	0.01	9/21	N/A	Initials: 0.02	Value: 0.02	
	Conductivity (mS/cm)	1,413	06A 1/21	06A087	Initials: 1.413	Value: 1.415	
	ORP	220	3/21	06F188	Initials: 220	Value: 221	
	DO (mg/L)	8.9-9. (ambient air)	NA	NA	Initials: 9.1	Value: 9.1	
Second Point Calibration	pH	4.0	1/22	N/A	Initials: 4.03	Value: 4.11	
	Turbidity (NTU)	20	9/21	N/A	Initials: 20.3	Value: 21.1	
	Conductivity (mS/cm)	—	—	—	Initials: —	Value: —	
Third Point Calibration	pH	10.0	9/21 12/21	96L6418	Initials: 10.01	Value: 10.07	
	Turbidity	100	9/21	N/A	Initials: 8025	Value: 8065	

Turbidity Meter Model and Equipment ID: Geotech 800 5617

Additional Remarks: _____

Equipment Calibration Daily Log



Date: 9/15/20	Project Name: LTM SA2 2020
Project#: 02028025 Task 3	Recorded by: KVB

WATER QUALITY METER	Model: VST PRO Plus				Morning Calibration/ Check	Evening Check (one point only)	Additional Calib/Check (if needed)
	Parameter	Standard	Exp Date	Lot#			
First Point Calibration (Auto)	pH	7.0	1/22	06A 093	Initials: 7.0	Value: 7.01	
	Turbidity (NTU)	0.01	9/21	NA	0.02	0.02	
	Conductivity (mS/cm)	1.413	1/21	06A 037	1.413	1.415	
	ORP	220	3/21	06F108	220	220.6	
	DO (mg/L)	8.9-9. (ambient air)	NA	NA	9.1	9.1	
Second Point Calibration	pH	4.0	1/22	NA	Initials: 4.0	Value: 4.01	
	Turbidity (NTU)	2.0	9/21	NA	2.2	2.0.9	
	Conductivity (mS/cm)						
Third Point Calibration	pH	10.0	1/21	96L 048	Initials: 10.0	Value: 10.00	
	Turbidity	10.6	9/21	NA	101	10.2	

Turbidity Meter Model and Equipment ID: Geotekn 5617

Additional Remarks:

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis	Well ID: MW-475	Date: 9/14/20								
	Project #: LTM SA2 2020 SSW Collis	Sample ID: COL-GW-01	Recorded by: KVB								
	Weather Conditions & Barometric Pressure: 75° F Sun, 30.29 inHg										
EQUIPMENT	Purging Equipment: Blaster	Water Level Indicator: Geotech	PID Type/ID#: NA								
	Water Quality Meter Type and #: YSI	Sampling Equipment: Blaster	Turbidimeter and #: Geotech								
WELL INFO	Casing ID (in): 7 in	Well Volume: ~2.37 gallons	Condition of Well: Good								
	Initial Depth to Water (ft): 3.09	Total Volume Purged: ~4 gallons	Water in Well Vault? No								
	Total Well Depth (ft): 17.93	Depth of Pump Intake (ft): 14 ft from bottom	Well Mouth PID (ppm): NA								
	Water Column Thickness (ft): 14.84	Immiscible Layer: Yes (No)	Ambient PID (ppm): NA								
	Remarks:										
CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0
Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/14/20	1425	3.12	na	200	13.9	6.67	0.670	8.49	17.2	-61.7	Clear
	1430	3.17	na	200	14.3	6.94	0.640	8.95	12.7	-61.8	Clear
	1435	3.20	na	200	13.8	7.05	0.650	8.38	10.4	-65.7	Clear
	1440	3.25	na	200	12.9	6.63	0.70	8.62	10.4	-75.7	Clear
	1445	3.29	na	200	13.2	6.55	0.69	8.81	9.0	-88.1	Clear
	1450	3.30	na	200	13.1	6.52	0.70	0.66	8.6	-90.2	Clear
	1455	3.31	na	200	13.1	6.51	0.69	0.60	8.2	-92.7	Clear

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings

Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time: 1455 9/14/20	# of Containers 3	Container Volume 40mL	Container Material VOA	Preservative HCl	Filter (Y/N) N	Pump, Bailer, Foot Valve Pump	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #: 222804	3	40mL	VOA	HCl	N	Pump			VOCs
ALS	3	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
	+	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	+	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	+	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)



Monitoring Well Sample Collection Form

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
St. Deviation: +/- 0.5°C, +/- 0.1 pH, +/- 1.3% Cond, +/- 0.3 mg/L DO, +/- 10% Turb (or < 50 NTU), +/- 10 mV ORP

Stabilization: +/- 0.5C, +/- 0.1 pH,		+/- 3% Cond,		+/- 0.3 mg/L DO,		+/- 10% Turb (or < 50 NTU),		+/- 10 mV ORP	
Sample Date/Time:	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Baiter, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
1510 9/14/17C	3	40mL	VOA	HCl	N	Pump			VOCs
Laboratory and Chain-of-Custody #:	3	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
ALS 222804	1	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	+	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	+	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis	Well ID: PZ-48	Date: 9/14/20								
	Project #: LTM SA2 2020 SSW Collis	Sample ID: COL-GW-03	Recorded by: KVB								
	Weather Conditions & Barometric Pressure: 75°f, Sun, 30.29 in Hg										
EQUIPMENT	Purging Equipment: peristaltic	Water Level Indicator: Geotech	PID Type/ID#: NA								
	Water Quality Meter Type and #: YSI	Sampling Equipment: peristaltic	Turbidimeter and #: Geotech								
WELL INFO	Casing ID (in): 1in	Well Volume: 0.282 gal	Condition of Well: Good								
	Initial Depth to Water (ft): 3.60	Total Volume Purged: ~1 gal	Water in Well Vault?: NC								
	Total Well Depth (ft): 10.65	Depth of Pump Intake (ft): 7 ft from bottom	Well Mouth PID (ppm): NA								
	Water Column Thickness (ft): 7.05	Immiscible Layer: Yes No	Ambient PID (ppm): NA								
	Remarks:										
CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0
Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/14/20	1535	na	150	150	17.2	6.56	0.76	1.10	132	-36.7	Slightly turbid
	1540	na	na	150	17.2	6.47	0.78	0.92	77.4	-40.6	Well dried up
	1550	na	na	100	17.4	6.52	0.77	0.72	50.3	-21.2	Allowed 10 min
	1555	na	na	100	16.7	6.50	0.74	0.70	47.2	-15.2	(recharge).
	1605	na	na	100	16.4	6.56	0.73	0.76	42.8	-10.7	Well dried up allowed 10 min (recharge then sample)

Pump Rate: <0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
 Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time:	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #:	3	40mL	VOA	HCl	N	Pump			VOCs
ALS 222804	3	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
	1	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	1	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	1	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)



Monitoring Well Sample Collection Form

LOCATION	Site: SSW Collis	Well ID: MW-42	Date: 9/4/20
	Project #: LTM SA2 2020 SSW Collis	Sample ID: COL-GW-04	Recorded by: KVB
Weather Conditions & Barometric Pressure: 70°, haze, 30.29 in Hg			

EQUIPMENT	Purging Equipment: peristaltic	Water Level Indicator: Grotech	PID Type/ID#: NA
	Water Quality Meter Type and #: YSI	Sampling Equipment: peristaltic	Turbidimeter and #: Grotech

WELL INFO	Casing ID (in): 2.5	Well Volume: ~7.38	Condition of Well: good
	Initial Depth to Water (ft): 4.02	Total Volume Purged: ~5 gal	Water in Well Vault? No
	Total Well Depth (ft): 50.2	Depth of Pump Intake (ft): 14 ft from bottom	Well Mouth PID (ppm): NA
	Water Column Thickness (ft): 46.18	Immiscible Layer: Yes No	Ambient PID (ppm): NA
Remarks: Had to use peristaltic due to obstruction in well			

CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0

Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/4/20	1615	4.04	na	20	14.0	7.07	0.90	0.55	10.6	-46.2	Clear
	1620	4.11			15.7	6.84	1.04	0.13	6.2	-80.7	
	1625	4.17			15.7	6.81	1.05	0.04	6.3	-76.4	
	1630	4.20			15.7	6.86	1.06	0.09	6.6	-72.7	
	1635	4.27			15.7	6.78	1.05	0.11	5.7	-70.4	
	1640	4.25			15.7	6.76	1.05	0.08	5.2	-67.5	
	1645	4.27			15.7	6.75	1.05	0.07	5.1	-65.2	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
 Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time: 1645	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #: ALS 272804	3	40mL	VOA	HCl	N	Pump	3	3	VOCs
	3	40mL	VOA	HCl	N	Pump	3	3	1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump	2	2	Methane, Ethane, Ethene (MNAs)
	1	250mL	Plastic	H2SO4	N	Pump	1	1	Nitrite/Nitrate (MNAs)
	1	500mL	Plastic	ZnAc	N	Pump	1	1	Chloride, Sulfate, Metals (MNAs)
	5	500mL	Plastic	ZnAc	N	Pump	5	5	Sulfide (MNAs)

X Collected COL-GW-04 MSLWSD and Dup ? COL-GW-05

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis		Well ID: MW-34			Date: 9/14/20					
	Project #: LTM SA2 2020 SSW Collis		Sample ID: COL-GW-04			Recorded by: KVB					
	Weather Conditions & Barometric Pressure: 70°f haze, 30.29 in Hg										
EQUIPMENT	Purging Equipment: peristaltic		Water Level Indicator: Geotech			PID Type/ID#: NA					
	Water Quality Meter Type and #: YSI		Sampling Equipment: peristaltic			Turbidimeter and #: Geotech					
WELL INFO	Casing ID (in): 2in		Well Volume: 24.32 gal			Condition of Well: good					
	Initial Depth to Water (ft): 1.58		Total Volume Purged: ~4 gal			Water in Well Vault?: No					
	Total Well Depth (ft): 3.4		Depth of Pump Intake (ft): Lift from bottom			Well Mouth PID (ppm): NA					
	Water Column Thickness (ft): 2.02		Immiscible Layer: Yes <input checked="" type="checkbox"/>			Ambient PID (ppm): NA					
	Remarks: Had to use peristaltic due to obstruction in well										
CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0
Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/14/20	1728	4.66	na	200	17.0	6.71	0.96	0.12	2.7	-76.3	Cloudy
	1730	4.72	na	200	16.7	6.74	0.96	0.09	1.7	-81.0	
	1735	4.75	na	200	16.1	6.66	0.96	0.01	0.2	-78.3	
	1740	4.77	na	200	16.1	6.75	0.95	0.02	0.2	-84.0	
	1745	4.77	na	200	15.7	6.75	0.94	0.02	0.2	-87.7	
	1750	4.77	na	200	15.6	6.75	0.94	0.02	0.2	-87.6	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
 Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
1750	(3)	40mL	VOA	HCl	N	Pump			VOCs
Laboratory and Chain-of-Custody #:	(3)	40mL	VOA	HCl	N	Pump			1,4-Dioxane
ALS 227804	(2)	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
	(1)	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	(1)	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	(1)	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)



Monitoring Well Sample Collection Form

LOCATION	Site: SSW Collis	Well ID: MW-45	Date: 9/15/20
	Project #: LTM SA2 2020 SSW Collis	Sample ID: COL-GW-07	Recorded by: KVB
Weather Conditions & Barometric Pressure: 65°, hazy, 30.22 in/Hg			

EQUIPMENT	Purging Equipment: Plastic Bladder Bladder	Water Level Indicator: Geotek	PID Type/ID#: NA
	Water Quality Meter Type and #: YSI	Sampling Equipment: Bladder	Turbidimeter and #: Geotek

WELL INFO	Casing ID (in): 2in	Well Volume: ~9.04 gal	Condition of Well: missing cap and
	Initial Depth to Water (ft): 0.0	Total Volume Purged: ~5 gal	Water in Well Vault? Yes JPI 14
	Total Well Depth (ft): 25.54	Depth of Pump Intake (ft): 14 ft from bottom	Well Mouth PID (ppm): NA
	Water Column Thickness (ft): 25.54	Immiscible Layer: Yes No	Ambient PID (ppm): NA
Remarks:			

CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0

Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/15/20	0720	0.0	na	200	12.3	6.43	0.80	7.43	50.7	66.8	black sediment
	0725	0.0	na	200	12.5	6.90	0.80	5.49	42.0	17.8	↓
	0730	0.0	na	200	12.3	6.88	0.90	3.82	40.7	10.0	↓
	0735	0.0	na	200	11.0	6.81	0.90	0.44	36.9	12.5	clear
	0740	0.0	na	200	11.0	6.81	0.80	0.34	35.9	12.1	↓
	0745	0.0	na	200	11.0	6.83	0.80	0.16	21.4	11.0	↓
	0750	0.0	na	200	11.0	6.83	0.80	0.11	21.2	10.9	↓

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
 Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time: 0750 9/15/20	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #: ALS 222806	3	40mL	VOA	HCl	N	Pump			VOCs
	3	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
	1	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	1	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	1	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis		Well ID: MW-53			Date: 9/15/20					
	Project #: LTM SA2 2020 SSW Collis		Sample ID: COL-GW-C8			Recorded by: KVB					
	Weather Conditions & Barometric Pressure:										
EQUIPMENT	Purging Equipment: Blaster		Water Level Indicator: Geotek			PID Type/ID#: NA					
	Water Quality Meter Type and #: YSI		Sampling Equipment: Blaster			Turbidimeter and #: Geotek					
WELL INFO	Casing ID (in): 2 in		Well Volume: ~8,35			Condition of Well: Good					
	Initial Depth to Water (ft): 0.0		Total Volume Purged: ~74.1			Water in Well Vault? No					
	Total Well Depth (ft): 52.24		Depth of Pump Intake (ft): 4 ft from bottom			Well Mouth PID (ppm): NA					
	Water Column Thickness (ft): 52.24		Immiscible Layer: Yes No			Ambient PID (ppm): NA					
	Remarks:										
CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0
Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/15/20	0820	0.0	na	200	11.7	7.99	0.70	0.40	6.9	-50.8	Clear
	0825	0.0	na	200	11.7	7.02	0.70	0.35	5.8	-53.6	
	0830	0.0	na	200	11.9	7.03	0.70	0.34	4.6	-58.1	
	0835	0.0	na	200	11.7	7.02	0.70	0.39	4.8	-61.2	
	0840	0.0	na	200	11.7	7.02	0.70	0.11	4.2	-66.8	
	0845	0.0	na	200	11.6	7.03	0.70	0.08	4.0	-68.3	
	0850	0.0	na	200	11.6	7.02	0.70	0.06	4.1	-70.2	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
 Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mv ORP

Sample Date/Time: 0850 0850	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #: ALS 72280U	①	40mL	VOA	HCl	N	Pump			VOCs
	②	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	③	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
	④	250mL	Plastic	H2SO4	N	Pump		.	Nitrite/Nitrate (MNAs)
	⑤	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	⑥	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis		Well ID: NW-54				Date: 9/15/20					
	Project #: LTM SA2 2020 SSW Collis		Sample ID: COL-GW-09				Recorded by: KVB					
	Weather Conditions & Barometric Pressure: 70° F, Sun, 30.22 inHg											
EQUIPMENT	Purging Equipment: Duster		Water Level Indicator: Geotech				PID Type/ID#: NA					
	Water Quality Meter Type and #: YSI		Sampling Equipment: Duster				Turbidimeter and #: Geotech					
WELL INFO	Casing ID (in): 2 in			Well Volume: ~4,704				Condition of Well: Good				
	Initial Depth to Water (ft): 0.0			Total Volume Purged: ~4 gal				Water in Well Vault? NC				
	Total Well Depth (ft): 30.0			Depth of Pump Intake (ft): Lift from bottom				Well Mouth PID (ppm): NA				
	Water Column Thickness (ft): 29.4			Immiscible Layer: Yes No				Ambient PID (ppm): NA				
	Remarks:											
CASING INFO	Casing ID (in) [a]:		1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:		0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0
Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)	
9/15/20	0925	0.85	na	200	12.9	6.55	0.69	1.53	8.4	-95.4	Clear	
	0930	0.90	na	200	12.7	6.67	0.69	0.50	7.7	-104.1		
	0935	0.92	na	200	12.6	6.67	0.69	0.52	6.8	-103.7		
	0940	0.95	na	200	12.6	6.67	0.69	0.55	5.2	-101.5		
	0945	0.98	na	200	12.5	6.67	0.69	0.51	5.0	-98.7		
	0950	0.98	na	200	12.5	6.67	0.69	0.50	4.4	-98.2		

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
Stabilization: +/- 0.5C. +/- 0.1 pH, +/- 3% Cond, +/- 0.3 mg/L DO, +/- 10% Turb (or < 50 NTU), +/- 10 mV ORP

Stabilization:		+-0.3C, +/-0.1 pH,		1-5% Cont.		1-0.5 mg/L DO,		1-10% TDS or <50 NTU,		1-10 mV ORP	
Sample Date/Time:		# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method	
Laboratory and Chain-of-Custody #: ALS 222806	1	40mL	VOA	HCl	N	Pump				VOCs	
	1	40mL	VOA	HCl	N	Pump				1,4-Dioxane	
	2	40mL	VOA	HCl	N	Pump				Methane, Ethane, Ethene (MNAs)	
	1	250mL	Plastic	H2SO4	N	Pump				Nitrite/Nitrate (MNAs)	
	1	500mL	Plastic		N	Pump				Chloride, Sulfate, Metals (MNAs)	
	1	500mL	Plastic	ZnAc	N	Pump				Sulfide (MNAs)	

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis			Well ID: MW-56				Date: 9/15/20				
	Project #: LTM SA2 2020 SSW Collis			Sample ID: COL-GW-10				Recorded by: KVB				
	Weather Conditions & Barometric Pressure: 69°f, Sun, 30.22 in Hg											
EQUIPMENT	Purging Equipment: Bladder			Water Level Indicator: Geotek				PID Type/ID#: NA				
	Water Quality Meter Type and #: YSI			Sampling Equipment: Bladder				Turbidimeter and #: Geotek				
WELL INFO	Casing ID (in): 2 in			Well Volume: ~3.30 gallons				Condition of Well: Good				
	Initial Depth to Water (ft): 3.75			Total Volume Purged: ~5 gal				Water in Well Vault? NO				
	Total Well Depth (ft): 24.77			Depth of Pump Intake (ft): 7 ft from bottom				Well Mouth PID (ppm): NA				
	Water Column Thickness (ft): 21.02			Immiscible Layer: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				Ambient PID (ppm): NA				
	Remarks:											
CASING INFO	Casing ID (in) [a]:		1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:		0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0
Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)	
9/15/20	1020	3.70	na	200	15.7	6.49	0.285	4.54	30.7	-35.4	clear	
	1025	3.80	na	200	15.2	6.62	0.030	1.27	18.2	-66.4		
	1030	3.88	na	200	15.1	6.77	1.75	1.21	12.4	-66.5		
	1035	3.90	na	200	15.1	6.81	2.11	0.34	10.8	-93.5		
	1040	3.90	na	200	15.2	6.64	2.12	0.37	9.9	-94.7		
	1045	3.90	na	200	15.1	6.85	2.21	0.37	9.0	-96.4		
	1050	3.92	na	200	15.0	6.83	2.22	0.21	9.4	-97.2		
	1055	3.92	na	200	15.0	6.85	2.23	0.22	9.6	-97.6		

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
 Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time: 9/15/20	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #:	3	40mL	VOA	HCl	N	Pump			VOCs
	3	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
ALS ZZZ803	4	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	4	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	1	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)



Monitoring Well Sample Collection Form

LOCATION	Site: SSW Collis	Well ID: MW-505	Date: 9/15/20
	Project #: LTM SA2 2020 SSW Collis	Sample ID: COL-GW-11	Recorded by: KVB

Weather Conditions & Barometric Pressure: 69°F, Sun, 30.22 inHg

EQUIPMENT	Purging Equipment: blaster	Water Level Indicator: Geotech	PID Type/ID#: NA
	Water Quality Meter Type and #: YSI	Sampling Equipment: blaster	Turbidimeter and #: Geotech

WELL INFO	Casing ID (in): 2.5	Well Volume: 1.49	Condition of Well: Good
	Initial Depth to Water (ft): 2.95	Total Volume Purged: ~4 gal	Water in Well Vault? No
	Total Well Depth (ft): 12.28	Depth of Pump Intake (ft): 4 ft from bottom	Well Mouth PID (ppm): NA
	Water Column Thickness (ft): 9.33	Immiscible Layer: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ambient PID (ppm): NA

Remarks:

CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0

Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/15/20	110	3.02	na	200	16.8	6.61	0.537	0.78	17.9	-14.3	Clear
	115	3.10	na	200	16.6	6.61	1.03	0.35	12.2	-54.1	
	120	3.11	na	200	16.5	6.82	1.22	0.34	10.8	-70.4	
	125	3.11	na	200	16.5	6.89	1.40	0.33	9.4	-82.0	
	130	3.11	na	200	16.5	6.87	1.42	0.33	8.2	-83.7	
	135	3.11	na	200	16.5	6.89	1.43	0.34	7.1	-84.3	
↓	140	3.11	na	200	16.5	6.89	1.44	0.33	7.6	-87.9	↓

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
 Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time: 9/15/20	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #:	3	40mL	VOA	HCl	N	Pump			VOCs
	3	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
ALS 222803	1	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	1	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	1	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)

Monitoring Well Sample Collection Form



Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive readings
Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond, +/- 0.3 mg/L DO, +/-10% Turb (or < 50 NTU), +/- 10 mV ORP

Sample Date/Time:	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #: ALS 222803	3	40mL	VOA	HCl	N	Pump			VOCs
	3	40mL	VOA	HCl	N	Pump			1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump			Methane, Ethane, Ethene (MNAs)
	1	250mL	Plastic	H2SO4	N	Pump			Nitrite/Nitrate (MNAs)
	1	500mL	Plastic		N	Pump			Chloride, Sulfate, Metals (MNAs)
	1	500mL	Plastic	ZnAc	N	Pump			Sulfide (MNAs)

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis	Well ID: MW-43	Date: 9/15/20								
	Project #: LTM SA2 2020 SSW Collis	Sample ID: COL-GW-13	Recorded by: KVB								
	Weather Conditions & Barometric Pressure: 70°f, Sun, 30.22 in Hg										
EQUIPMENT	Purging Equipment: bladderv	Water Level Indicator: Geotek	PID Type/ID#: NA								
	Water Quality Meter Type and #: YSI	Sampling Equipment: bladderv	Turbidimeter and #: Geotek								
WELL INFO	Casing ID (in): 2.5	Well Volume: ~15.9 gal	Condition of Well: Good								
	Initial Depth to Water (ft): 0.0	Total Volume Purged: ~4 gal	Water in Well Vault? No								
	Total Well Depth (ft): 99.38	Depth of Pump Intake (ft): 4 ft from bottom	Well Mouth PID (ppm): NA								
	Water Column Thickness (ft): 99.38	Immiscible Layer: Yes (No)	Ambient PID (ppm): NA								
	Remarks:										
CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft Measurements: 5 mins Stabilization for 3 consecutive reading

Stabilization: +/-0.5C, +/-0.1 pH, +/-3% Cond., +/- 0.3 mg/L DO, +/-10% Tub (or < 50 NTU), +/- 10 mV ORP

Stabilization	-70.5°C	-70°C	pH	-75% Gunc	-7.0 mg/L DO	-7-10% TSP (C-50 NTSC)	-7-10% TSP				
Sample Date/Time:	1300	9/15/20	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #:	(3)	40mL	VOA	HCl	N	Pump					VOCs
	3	40mL	VOA	HCl	N	Pump					1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump					Methane, Ethane, Ethene (MNAs)
ALS 4222803	1	250mL	Plastic	H2SO4	N	Pump					Nitrite/Nitrate (MNAs)
	+	500mL	Plastic		N	Pump					Chloride, Sulfate, Metals (MNAs)
	+	500mL	Plastic	ZnAc	N	Pump					Sulfide (MNAs)

Monitoring Well Sample Collection Form



LOCATION	Site: SSW Collis	Well ID: MW-39	Date: 9/15/20								
	Project #: LTM SA2 2020 SSW Collis	Sample ID: COL-GW-14	Recorded by: KVB								
	Weather Conditions & Barometric Pressure: 75°f, Sun, 30.22 in HG										
EQUIPMENT	Purging Equipment: bladder	Water Level Indicator: Geotech	PID Type/ID#: NA								
	Water Quality Meter Type and #: YSI	Sampling Equipment: bladder	Turbidimeter and #: Geotech								
WELL INFO	Casing ID (in): 2.5	Well Volume: ~1.7 gal	Condition of Well: Good								
	Initial Depth to Water (ft): 3.20	Total Volume Purged: ~3.5 gal	Water in Well Vault? No								
	Total Well Depth (ft): 13.91	Depth of Pump Intake (ft): Lift from bottom	Well Mouth PID (ppm): NA								
	Water Column Thickness (ft): 10.43	Immiscible Layer: Yes <input checked="" type="checkbox"/>	Ambient PID (ppm): NA								
	Remarks:										
CASING INFO	Casing ID (in) [a]:	1.0	1.5	2.0	2.2	3.0	4.0	4.3	5.0	6.0	7.0
	Unit Casing Volume (gal/in ft) [b]:	0.04	0.09	0.16	0.20	0.37	0.65	0.75	1.0	1.5	2.0
Date	Time (24 hr)	Water Level (FTOC)	Volume Removed (L)	Pumping Rate (Lpm)	Temp (C)	pH	Cond (mS/cm)	DO (mg/L)	Turb (NTU)	ORP (mv)	Remarks (odor, clarity, etc)
9/15/20	1320	3.34	na	200	17.4	6.54	2.40	0.19	2.6	-35.0	Clear
	1325	3.40	na	200	17.3	6.61	2.36	0.16	0.02	-39.6	
	1330	3.40	na	200	17.3	6.62	2.33	0.12	0.02	-42.7	
	1335	3.40	na	200	17.3	6.61	2.33	0.11	0.02	-45.8	
	1340	3.40	na	200	17.3	6.63	2.33	0.10	0.02	-43.7	
	1345	3.40	na	200	17.3	6.63	2.33	0.11	0.02	-44.6	

Pump Rate: <=0.5 L/min Drawdown: <0.33 ft

Stabilization: $\pm 0.5^\circ\text{C}$ $\pm 0.1\text{ pH}$

Measurements: 5 min

$\pm 3\%$ Cond

Stabilization for 3 consecutive readings

Stabilization for 3 consecutive readings
0.3 mg/L PO₄³⁻ +/- 10% Tumb (or < 50 NTU) +/- 10 mV ORE

Stabilization: +/- 0.5C, +/- 0.1 pH, +/- 3% Cond., +/- 0.3 mg/L DO,		+/- 10% Turb (or < 50 NTU),		+/- 10 mV ORP					
Sample Date/Time:	# of Containers	Container Volume	Container Material	Preservative	Filter (Y/N)	Pump, Bailer, Foot Valve	Duplicate (# of Containers)	MS/MSD (# of Containers)	Parameter(s) and Analytical Method
Laboratory and Chain-of-Custody #: ALS 222803	3	40mL	VOA	HCl	N	Pump	3		VOCs
	3	40mL	VOA	HCl	N	Pump	-		1,4-Dioxane
	2	40mL	VOA	HCl	N	Pump	-		Methane, Ethane, Ethene (MNAs)
	1	250mL	Plastic	H2SO4	N	Pump	-		Nitrite/Nitrate (MNAs)
	1	500mL	Plastic		N	Pump	-		Chloride, Sulfate, Metals (MNAs)
	1	500mL	Plastic	ZnAc	N	Pump	-		Sulfide (MNAs)

ATTACHMENT C
GRAVEL LOT INSPECTION

SEMI-ANNUAL INSPECTION RECORD

Media Management Plan

Collis, Inc. Property

Clinton, Iowa

Inspection performed by: KVB

Date: 9/15/20

Weather: 75°f, Sun

1) Gravel Truck Lot

See attached figure for area to be inspected. Inspect gravel condition and list observations below. Take photographs showing overall condition of the lot and gravel coverage, including close-up photographs detailing specific observations.

- 1) Inspect for evidence of excessive erosion. If excessive erosion is observed, document necessary corrective measures (e.g., regrading, placement of new gravel, etc.).

None

- 2) Inspect for evidence of burrowing animals. If evidence of burrowing animals observed, document necessary corrective measures (e.g., filling of burrow holes, etc.).

None

- 3) Inspect for areas of poor drainage or ponding. If evidence of poor drainage or ponding are observed, document necessary corrective measures (e.g., regrading, placement of new gravel, etc.).

None

- 4) Inspect for bare areas (either no gravel cover or no vegetation). If bare areas are observed, document necessary corrective measures (e.g., placement of new gravel).

None

Additional/Other Maintenance needed? Yes No X

Location/explanation:

Corrective measures must be completed within **60 days** of discovery (weather permitting) and documented evidence of corrective measures implementation must be provided to BB&E as part of the certification process.

Follow-up Inspection (after repair):

Performed by: _____

Date: _____

**Attachment C
Gravel Lot Inspection
September 2020**

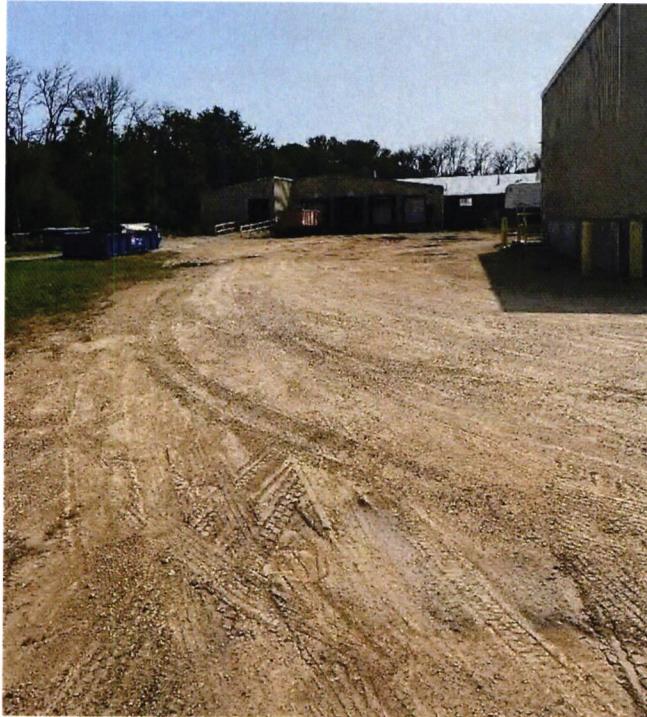


Photo 1

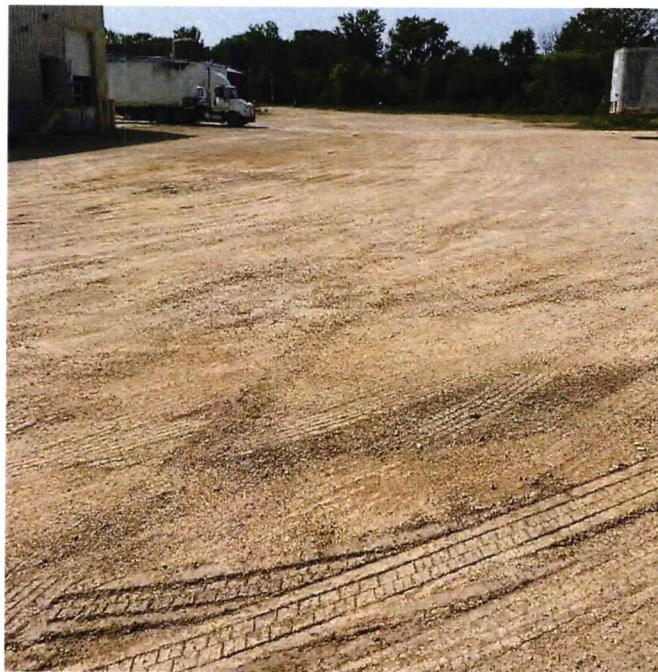


Photo 2

Attachment C
Gravel Lot Inspection
September 2020



Photo 3



Photo 4

**Attachment C
Gravel Lot Inspection
September 2020**



Photo 5



Photo 6

Attachment C
Gravel Lot Inspection
September 2020



Photo 7



Photo 8

Attachment C
Gravel Lot Inspection
September 2020



Photo 9



Photo 10

ATTACHMENT D

ANNUAL CERTIFICATION FOR COMPLIACE WITH LUCS/ICS



October 1, 2020

D. Mark Doolan
U.S Environmental Protection Agency
Air and Waste Management Division, WRAP Branch
11201 Renner Blvd.
Lenexa, KS 66219
913-551-7169

RE: Collis, Inc Semi-Annual Certification for Compliance with LUCs/ICs for second half 2020
USEPA Reference ID No. IAD047303771

As a condition of the Environmental Restrictive Covenant (ERC) entered into between the United States Environmental Protection Agency (USEPA), SSW Realty Iowa, LLC, and Collis, Inc (Collis), Collis is required to provide the USEPA Project Coordinator with a written Annual Report describing compliance with the implementation of Land Use Controls (LUCs)/Institutional Controls (ICs) for soil and groundwater at the Collis property, as detailed in the ERC. To verify the implementation of LUCs/ICs at the Collis property, we have decided to provide these reports on a semi-annual basis along with our Long-Term Monitoring Groundwater Reports. The second half 2020 semi-annual inspection was conducted on September 15, 2020.

1. Status of compliance with land use or resource use restrictions, including institutional controls, as stated in the ERC:
 - The property is not being utilized for residential purposes
 - There has been no construction or use of wells or other devices on the property for the extraction of groundwater to be used for consumption, irrigation, or any other purpose.
 - There has been no in-situ treatment of the groundwater to expedite groundwater remediation.
 - There has been no excavation or subsurface activity greater than two (2) feet below ground surface at the property.
 - The gravel lot has been inspected and maintained on a semi-annual basis.
 - No activities were conducted that would interfere with the function of or obstruct access to any groundwater monitoring wells, vapor pins, and/or monitoring devices located on the property.
 - No new structures planned for human occupancy were built on the property.
2. Any other relevant information regarding other activities or matters at the Collis facility that affect or may affect the implementation of the requirements of the ERC:
 - None noted

This concludes our Semi-Annual Certification Report for second half 2020; if you have questions feel free to contact me at (517) 227-6118.

Also, you may have noticed the new logo at the top of this letter. SSW Holding Company, LLC recently went through a rebranding and is now SSW Advanced Technologies, LLC. Please note the new email address which has changed from bcalhoun@sswholding.net to bcalhoun@sswtechnologies.net. Everything else stays the same.

Sincerely,



Brian Calhoun
Corporate Safety & Environmental Director
SSW Advanced Technologies, LLC
176 West Colon Road Coldwater, MI 49036
(517) 227-6118
bcalhoun@sswtechnologies.net

REFERENCES

- BB&E, Inc. (BB&E), 2014. *Final RCRA Corrective Measures Activities Quality Assurance Project Plan*. August.
- BB&E, 2017. *Final RCRA Corrective Measure Activities Media Management Plan*. December.
- BB&E, 2018. *Final Corrective Measures Study Report*. April.
- BB&E, 2019a. *Revised Final Corrective Measures Implementation – LTM Groundwater Monitoring Work Plan*. April.
- BB&E, 2019b. *Final Summary Report for 2019 Monitoring Well Abandonment Activities*. May.
- Interstate Technology and Regulatory Council, 1999. *Natural Attenuation of Chlorinated Solvents in Groundwater: Principles and Practices*. September.
- United States Environmental Protection Agency (U.S. EPA), 2018. *Vapor Intrusion Screening Level Calculator*. Retrieved from: <https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator>. May.



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